Substitute Environmental Document
Salt and Nutrient Management Plan

Malibu Valley Groundwater Basin

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Substitute Environmental Document for the Salt and Nutrient Management Plan for the Malibu Valley Groundwater Basin

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AB	Assembly Bill
ADT	average daily trips
AF	acre-feet
AFY	acre-feet per year
AQMP	Air Quality Management Plan
BMP	best management practice
BTU	British Thermal Unit
CAL/OSHA	California Occupational Safety and Health Administration
CARB	California Air Resources Board
CCR	California Code of Regulations
CCWTF	City of Malibu Civic Center Wastewater Treatment Facility
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CECs	Constituents of Emerging Concern
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGP	Construction General Permit
CH&SC	California Health and Safety Code
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalence
CRMMP	Cultural Resources Monitoring and Mitigation Plan
CWA	Clean Water Act
CWC	California Water Code
cy	cubic yard
dB	decibel
dBA	A-weighted decibel scale
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EIR	Environmental Impact Report
ERP	Emergency Response Plan
ESHA	Environmentally Sensitive Habitat Areas
EWMP	Enhanced Watershed Management Plan
ft-msl	feet above mean sea level
GHG	greenhouse gases
GWMP	Groundwater Management Plan
GWP	global warming potential
HMBP	Hazardous Materials Business Plan
kwH	kilowatt hours
LADPH	Los Angeles County Department of Public Health
LACDPW	Los Angeles County Department of Public Works
LACFD	Los Angeles County Fire Department

LARWQCB	Los Angeles Regional Water Quality Control Board
LASD	Los Angeles County Sheriff's Department
LCP	Local Coastal Program
Leq	Equivalent Noise Level
LID	Low Impact Development
LIP	Local Implementation Plan
LOS	Levels of Service
LST	Localized Significance Threshold
MCL	Maximum Contaminant Level
MF	microfiltration
MG	million gallons
mg/L	milligrams per liter
MLD	Most Likely Descendant
MM	mitigation measure
MMC	Malibu Municipal Code
MOU	Memorandum of Understanding
MRPs	Monitoring and Reporting Programs
MS	management strategies
MS4	Municipal Separate Storm Sewer System
MT	million tons
MVGB	Malibu Valley Groundwater Basin
NAHC	Native American Heritage Commission
NdN	Nitrification/denitrification
NO_x	nitrous oxides
NPDES	National Pollutant Discharge Elimination System
NPR	Non-potable reuse
NRC	National Research Council
NWRI	National Water Research Institute
O_3	Ozone
OSHA	Occupational Safety and Health Administration
PCH	Pacific Coast Highway
$PM_{2.5}$	fine particulate matter (aerodynamic diameter of 2.5 micrometers or less)
PM_{10}	suspended particulate matter (aerodynamic diameter of 10 micrometers or less)
POS	Public Open space
PRC	Public Resources Code
RCP	Regional Comprehensive Plan
RGWMP	Regional Groundwater Monitoring Program
RMP	Risk Management Plan
ROG	reactive organic gas
ROW	right-of-way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SEAs	Significant Ecological Areas
SED	Substitute Environmental Document
SMCL	Secondary Maximum Contaminant Level

SMMUSD	Santa Monica Municipal School District
SNMP	Salt and Nutrient Management Plan
SRWS	Self Regenerating Water Softeners
SSMP	Sewer System Management Plan
SWMP	Stormwater Management Plan
SWP	State Water Project
SWPPP	Stormwater Pollution Prevention Plan
SWQDv	Storm Water Quality Design Volume
SWRCB	State Water Resources Control Board
TAC	technical advisory committee
TDS	total dissolved solids
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TM	Technical Memorandum
tpd	tons per day
USACE	United States Army Corp of Engineers
USBOR	United States Department of the Interior-Bureau of Reclamation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UV	ultraviolet irradiation
WDRs	Waste Discharge Requirements
WQO	Water Quality Objective
WRF	Water Recycling Facility
WRP	Water Reclamation Plant
WRRs	Water Recycling Requirements
WTP	Water Treatment Plant
WY	Water Year
ZTA	Zoning Text Amendment

ACKNOWLEDGMENTS

Many organizations and individuals collaborated to develop the Malibu Valley Groundwater Basin (MVGB) Salt and Nutrient Management Plan (SNMP) and this associated Substitute Environmental Document (SED). The MVGB SNMP and SED were made possible by the generous financial support from the City of Malibu, and many organizations and agencies generously dedicated their time to review and comment on project documents, participate in stakeholder meetings and provide vital data for the salt and nutrient analysis and plan development process. The MVGB stakeholders would like to recognize and thank everyone who contributed to this effort.

We would also like to express our gratitude to the Los Angeles Regional Water Quality Control Board for providing invaluable advice and guidance throughout the entire project, and to the team who prepared the SED for the Central Basin and West Coast Basin (CBWCB) SNMP – your document provided the framework from which this SED was prepared and provided valuable guidance in completion of this document.

Finally, we are truly thankful to the City of Malibu staff and consultant team consisting of RMC Water and Environment and McDonald Morrissey Associates, who worked tirelessly to facilitate and prepare the SNMP and SED.

EXECUTIVE SUMMARY

In accordance with the 2009 State Water Resources Control Board's (SWRCB) statewide Recycled Water Policy, this Substitute Environmental Document (SED) was prepared by RMC Water and Environment (RMC) for the Salt and Nutrient Management Plan (SNMP) for the Malibu Valley Groundwater Basin (MVGB), which is located along the Los Angeles County coastline, north of Santa Monica, California. The SNMP was developed through a collaborative process involving major stakeholders in the MVGB, including the City of Malibu, Heal the Bay, Surfriders, and other interested parties. The MVGB stakeholders worked in close consultation with the Los Angeles Regional Water Quality Control Board (LARWQCB) to develop the SNMP.

As set forth in the Recycled Water Policy, the SNMP must comply with the California Environmental Quality Act (CEQA); therefore, this SED presents the results of the environmental analysis of the SNMP, specifically the proposed management actions and the one major recycled water project to be constructed in the basin that were presented in the SNMP Implementation Plan. In accordance with the Recycled Water Policy, these implementation measures and proposed recycled water project were developed by the basin stakeholders to manage salt and nutrient (specifically, total dissolved solids [TDS] and nitrate) loading in the groundwater basis on a sustainable basis while reducing dependency on imported potable water supplies by introducing the use of recycled water to the City of Malibu. A Draft SED and Draft SNMP were submitted to the LARWQCB under separate covers for their review in 2015. A Basin Plan Amendment based on the SNMP was prepared by LARWQCB and adopted (Resolution XXX-XXX) by the LARWQCB Board on XXXXX XX, 201X. As such, for the objective of LARWQCB adoption of the Basin Plan Amendment, the LARWQCB was the lead agency for purposes of CEQA.

In accordance with CEQA requirements, two reasonable program alternatives, Alternatives 1 and 2, were developed by the LARWQCB and MVGB stakeholders based on the primary objectives of the SNMP and Recycled Water Policy. Below is a description of the alternatives.

- Alternative 1 – This is the "No Future Projects" alternative, which means a continuation of existing management actions or baseline conditions. Under this alternative, no planned management actions would be implemented, nor would the one proposed major recycled water project (the City of Malibu's Civic Center Wastewater Treatment Facility (CCWTF) project). Alternative 1 is contrary to the State's Recycled Water Policy, which requires development of an SNMP that must include management actions that will manage salt and nutrient loading in the groundwater basins on a sustainable basis, and will not result in compliance with SWRCB Order Resolution No. R4-2009-007 entitled *Amendment to the Water Quality Control Plan for the Coastal Watersheds of Ventura and Los Angeles Counties to Prohibit On-Site Wastewater Disposal Systems in the Malibu Civic Center Area* which requires the cessation of discharges to onsite wastewater disposal systems (OWDSs or septic systems) within the defined Prohibition Area and prohibits the construction of new OWDSs to protect the water quality in Malibu Creek and Lagoon and near shore ocean environments and support compliance with the Total Maximum Daily Load (TMDL) set for Malibu Creek. Since Alternative 1 did not meet the objectives of the Recycled Water Policy, MVGB SNMP, nor the SWRCB order, Alternative 1 was not considered reasonable or feasible and was eliminated for consideration.

- Alternative 2 – This alternative includes all the proposed management actions, introduces recycled water use for irrigation with water quality at or below the Secondary Maximum Contaminant Level (SMCL) for TDS and at 8 mg/L for nitrate (as Nitrogen), and allows for cessation

of OWDS use in the designated Prohibition Area, which overlies the entire MVGB, through the construction and operation of the Civic Center Wastewater Treatment Facility (CCWTF) Project. The CCWTF project is, as previously noted, the one proposed major recycled water project for the MVGB that would replace the use of OWDSs throughout the groundwater basin, and would provide 568 acre-feet per year (AFY) of disinfected recycled water that meets Title 22 requirements for unrestricted reuse. Any recycled water not reused for nonpotable purposes will be injected into the underlying groundwater basin, providing an injection barrier against potential future seawater intrusion. The CCWTF project will require construction of a new treatment plant, a new wastewater collection system, and a new recycled water pipeline to deliver the recycled water to the locations for non-potable use and to three injection wells for injection into the underlying groundwater basin.

Alternative 2 meets the objectives of the SNMP and Recycled Water Policy and therefore, is considered reasonable and feasible. As a result, Alternative 2 was selected as the most likely program alternative to be implemented (i.e. Recommended Program Alternative) because it is the most environmentally advantageous program alternative with respect to both surface water and groundwater quality.

Since Alternative 2 was selected as the Recommended Program Alternative, a program-level CEQA assessment, which included an Environmental Checklist, was conducted for this alternative. The CEQA assessment concluded that Alternative 2 could result in potentially significant environmental impacts related to aesthetics, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, and transportation; however, mitigation measures also were identified to minimize these potential impacts to a less than significant level with the exception of short-term construction-related impacts to noise and transportation. Significant and unavoidable impacts would occur to noise and transportation as a result of CCWTF construction, but these impacts would short-term (as they are construction related) and would not result in any irreversible damage to the people or the environment. Additionally, mitigation measures will be implemented during construction to reduce the intensity of these short-term impacts. Additionally, Alternative 2 would not cause significant direct and indirect growth-inducing impacts in the MVGB. The program-level CEQA analysis further concludes that when Alternative 2 is implemented in combination with other projects proposed in the region, there would be less than significant cumulative impacts on theenvironment.

To determine the impacts on future groundwater quality, CCWTF project operations and recycled water use in the MVGB, as associated with Alternative 2, were simulated using a mixing model that had been developed as part of the SNMP. The SNMP mixing model clearly demonstrates that while CCWTF implementation may increase nutrient loading in the MVGB, these impacts are more than offset by management actions and the benefits to be achieved by removing OWDS use in the groundwater basin (and the associated salt and nutrient loading associated with their use) such that groundwater quality overall in the MVGB would either improve or remain well below Water Quality Objectives for salts and nutrients.

The program-level CEQA analysis determined that Alternative 2 generally would not have a reasonably foreseeable significant adverse effect on the environment. Although there may be potentially significant impacts to the environment from implementation of Alternative 2, these impacts generally are expected to be limited, short-term, and/or would be reduced to less than significant levels with the implementation of the identified mitigation measures. In regards to CCWTF implementation, a separate project-level CEQA assessment has been prepared for this project, and is included in Appendix C of this document. The Malibu CCWTF Environmental Impact Report (EIR) identifies project-specific potential environmental

impacts and associated mitigation measures to minimize these impacts, and the City would be responsible for executing the recommended mitigation measures as part of CCWTF construction and operation.

The implementation of the Basin Plan Amendment will result in improved groundwater quality in the MVGB and will have significant positive impacts to the environment (including preservation of groundwater beneficial uses and water quality improvements to local surface water resources) and the economy over the long term. Preserving groundwater beneficial uses will have positive social and economic effects by decreasing nutrient loading associated with existing OWDS use, replacing the use of imported potable water supplies with recycled water for nonpotable uses, and reducing salt and nutrient concentrations in groundwater in the MVGB. Thus, as demonstrated by this SED, implementation of the MVGB SNMP is both necessary and beneficial.

1 INTRODUCTION

In accordance with the 2009 State Water Resources Control Board's (SWRCB) statewide Recycled Water Policy, this Substitute Environmental Document (SED) was prepared for the Malibu Valley Groundwater Basin (MVGB) Salt and Nutrient Management Plan (SNMP). The SNMP was developed through a collaborative process involving major stakeholders in the basin, including:

- The City of Malibu as the Local Coastal Program implementing agency and land use planning agency;
- The Los Angeles County Department of Public Health (LADPH), Environmental Health Division, Drinking Water Program as the entity primarily responsible for well construction and destruction permits and the regulation of small community systems; and
- The LARWQCB as the entity primarily responsible for protecting the quality of groundwater within the State.

At the local level, the City engaged two stakeholder groups during the development of the SNMP and the accompanying Groundwater Management Plan (GWMP). The first stakeholder group was a Technical Advisory Committee (TAC) that was originally convened for the Malibu Civic Center Wastewater Treatment Facility (CCWTF) Project. The second was a public stakeholder group that was also convened for the CCWTF and was broadened to include the SNMP and corresponding GWMP. The stakeholders worked in close consultation with the Los Angeles Regional Water Quality Control Board (LARWQCB) to develop the SNMP and SED.

As set forth in the Recycled Water Policy, the SNMP must comply with the California Environmental Quality Act (CEQA); hence, this SED presents the results of the environmental analysis of the SNMP, and by reference, environmental analyses conducted for individual projects referenced herein. Both the SED and SNMP are being submitted simultaneously to the LARWQCB under separate covers for their review.

1.1 SNMP AND SED PURPOSE AND OBJECTIVES

In February 2009, the SWRCB adopted Resolution No. 2009-0011, which established a statewide Recycled Water Policy. The Recycled Water Policy encourages increased use of recycled water and local stormwater, together with enhanced water conservation. It also requires local water and wastewater entities, together with local salt and nutrient contributing stakeholders to develop SNMPs for each groundwater basin in California. The SNMPs will be approved by the Regional Water Quality Control Boards (RWQCBs).

As stated in the Recycled Water Policy, the goal of the SNMP is to manage salts and nutrients from all sources on a basin-wide basis in a manner that ensures attainment of Water Quality Objectives (WQOs) and protection of beneficial uses, which are designated in the RWQCB's *Water Quality Control Plan* (otherwise known as the Basin Plan). The Recycled Water Policy encourages development of regional salt and/or nutrient management strategies, rather than relying on the past local RWQCB approach of imposing requirements on individual recycled water projects with no recognition of the relative and cumulative impacts when all projects and loading sources are considered regionally. Accordingly, the SNMP is intended to provide support and justification for elimination of separate antidegradation analyses and individual site monitoring requirements for proposed recycled water projects. The intent of this is to

streamline permitting to expedite the implementation of recycled water projects in a manner that complies with State and Federal water quality laws.

As set forth in the Recycled Water Policy, the SNMP must comply with CEQA and thus, this SED presents the results of the environmental analysis of programs and projects that were developed based on the SNMP Implementation Plan, which includes management actions and a planned major recycled water project. In accordance with the Recycled Water Policy, these management actions and the planned recycled water project were developed by the stakeholders to manage salt and nutrient loading in the Malibu Valley Groundwater Basin on a sustainable basis and to reduce dependency on imported potable water supplies by increasing the use of recycled water. This SED evaluates potential cumulative impacts to groundwater quality due to the execution of the proposed management actions and major recycled water project (the City of Malibu's CCWTF project), as presented in the SNMP. This SED facilitates adoption of the Basin Plan Amendment (see Section 1.2), which will be based on the SNMP.

1.2 Basin Plan Amendment and CEQA Lead Agency

Upon LARWQCB's approval of the MVGB SNMP, an Implementation Plan based on the SNMP will be adopted as an amendment to the Basin Plan by the LARWQCB Board. A CEQA analysis is a required part of the adoption process in accordance with the SWRCB's certified regulatory program. As such, for the purpose of LARWQCB adoption of the Basin Plan Amendment, the LARWQCB is the lead agency for purposes of CEQA. In accordance with the Recycled Water Policy, the MVGB stakeholders funded the development of the SNMP, which included conducting the environmental analysis and preparing this SED to comply with CEQA. MVGB stakeholders and LARWQCB staff worked in close collaboration to conduct the CEQA analysis and prepare this SED.

The LARWQCB's goal in adopting this Basin Plan Amendment is to incorporate regional salt and nutrient management strategies rather than relying on the past approach of imposing requirements on individual projects with no consideration of the relative and cumulative impacts when all projects and loading sources are considered. The MVGB SNMP Basin Plan Amendment may allow for streamlined permitting and elimination of separate permits and/or anti-degradation analyses for the vast majority of projects, allowing the LARWQCB to focus their limited resources on projects that require substantial regulatory review due to unique site-specific conditions.

1.3 CEQA Program-Level Assessment

California Public Resources Code (PRC) Section 21159(d) states that the RWQCB is not required to conduct a "project-level analysis." As such, the analysis in this SED is a program level (i.e., macroscopic) analysis of environmental impacts. CEQA describes a program-level environmental analysis as one prepared for a series of actions that can be characterized as one large project and are related either (1) geographically, (2) as logical parts in the chain of contemplated actions, (3) in connection with issuance of rules, regulations, or plans, or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways (California Code of Regulations, Title 14, Section 15168).

In accordance with PRC Section 21159(a), this SED does not engage in speculation or conjecture. This SED identifies the reasonably foreseeable environmental impacts associated with the reasonably foreseeable methods of compliance for the SNMP Implementation Plan (PRC, Section 21159(a)(1)), based on information developed before, during, and after the CEQA Scoping Meeting (refer to Section

2.7 of this SED for further details). When the CEQA analysis identifies a potentially significant environmental impact, the accompanying analysis identifies reasonably foreseeable feasible mitigation measures (PRC, Section 21159(a)(2)). Because the MVGB envisions implementation of a combination of management actions and one large recycled water project as identified in the SNMP, this SED evaluated possible combinations of actions that, along with the proposed CCWTF project, represent the reasonably foreseeable alternatives (PRC, Section 21159(a)(3)). Entities or agencies that carry out or implement individual projects associated with the SNMP (in this case, the City of Malibu for the CCWTF project) are considered the lead agencies under CEQA for their specific projects. Thus, these lead or implementing agencies will (and have) conducted the subsequent and separate project-level CEQA analyses of the individual projects as appropriate and necessary.

1.4 ORGANIZATION OF THE SED

This SED is organized into an Executive Summary, 10 sections, and three appendices as summarized below.

- **Section 1** – Describes the purpose of the SNMP and SED, Basin Plan Amendment and CEQA lead agency, the program-level CEQA analysis, and the organization of this document.
- **Section 2** – Describes regulatory requirements for the MVGB SNMP and SED.
- **Section 3** – Describes the baseline environmental conditions in the MVGB against which the analysis of potential environmental impacts was conducted.
- **Section 4** – Summarizes the SNMP Implementation Plan, including the management actions and the one planned major recycled water project (the City of Malibu's CCWTF project) in the groundwater basin.
- **Section 5** – Presents the program alternatives, including the Recommended Program Alternative.
- **Section 6** – Contains the environmental analysis of the Recommended Program Alternative.
- **Section 7** – Describes other environmental considerations for the Recommended Program Alternative, including cumulative environmental impacts and growth-inducing effects.
- **Section 8** – Presents the environmental analysis of the alternative to the Recommended Program Alternative.
- **Section 9** – Provides the statement of overriding considerations and the CEQA determination.
- **Section 10** – Provides a list of references citied in this SED.

Supporting materials are attached as the following appendices to this SED.

- **Appendix A** – State Water Resources Control Board *Recycled Water Policy for Water Quality Control for Recycled Water* (Recycled Water Policy), Resolution No. 2013-0003, Revised January 22, 2013 and Effective April 25, 2013 (originally approved as Resolution No. 2009-0011 on May 14, 2009)

- **Appendix B** – Los Angeles Regional Water Quality Control Board, June 28, 2012, *Regional Water Board Assistance in Guiding Salt and Nutrient Management Plan Development in the Los Angeles Region*

- **Appendix C** – City of Malibu *Final Environmental Impact Report, Malibu Civic Center Wastewater Treatment Facility Project* (RMC Water and Environment and ICF International, November 2014)

- **Appendix D** – Responses to Comments received as part of SED Scoping Process

2 REGULATORY REQUIREMENTS

This section presents the regulatory requirements for assessing the potential environmental impacts associated with the proposed management actions and the one major recycled water project identified in the SNMP. As a Certified Regulatory Program, the environmental assessment of the SNMP will be at a program level, as explained further below.

2.1 RECYCLEDWATERPOLICY

In February 2009, the SWRCB adopted Resolution No. 2009-0011, *Policy for Water Quality Control for Recycled Water* (Recycled Water Policy). The statewide Recycled Water Policy was revised, specifically the monitoring requirements for priority pollutants and constituents of emerging concern, by an Amendment (Resolution No. 2013-0003) that was adopted by the SWRCB on January 22, 2013 and became effective on April 25, 2013. The Recycled Water Policy and its Amendment (http://www.swrcb.ca.gov/water_issues/programs/water_recycling_policy/docs/rwp_revtoc.pdf) are provided as Appendix A.

The Recycled Water Policy encourages increased use of recycled water and local stormwater, together with enhanced water conservation. Specifically, the Recycled Water Policy establishes the following goals for California:

- Increase the use of recycled water over 2002 levels by at least one million AFY by 2020 and by at least two million AFY by 2030,
- Increase the use of stormwater over use in 2007 by at least 500,000 AFY by 2020 and by at least one million AFY by 2030,
- Increase the amount of water conserved in urban and industrial uses by comparison to 2007 by at least 20% by 2020, and
- Included in these goals is the substitution of as much recycled water for potable water as possible by 2030.

The Recycled Water Policy also requires local water and wastewater entities, together with local salt- and nutrient-contributing stakeholders to develop SNMPs by May 2014 for each groundwater basin in California. In the Los Angeles Region, the SNMPs will be approved by the LARWQCB and an Implementation Plan based on the SNMP will be adopted by the LARWQCB Board as an amendment to the Basin Plan.

2.2 LARWQCB GUIDANCE

The Recycled Water Policy also requires that the SNMP comply with CEQA. CEQA requirements that are applicable to the SNMP are described in the *Regional Water Board Assistance in Guiding Salt and Nutrient Management Plan Development in the Los Angeles Region* (SNMP Assistance Document, http://www.swrcb.gov/rwqcb4/water_issues/programs/salt_and_nutrient_management/Stakeholder_Outreach/Regional%20Water%20Board%20SNMP%20Assistance%20Document.PDF) that was issued by the LARWQCB on June 28, 2012. The SNMP Assistance Document provides guidance for preparation of SNMPs within the Los Angeles Region and outlines the CEQA requirements for LARWQCB adoption of an

Implementation Plan based on the SNMP into the Basin Plan. The SNMP Assistance Document, provided as Appendix B, was used as guidance to prepare this SED.

As stated in the SNMP Assistance Document, the environmental analysis of the SNMP will be conducted primarily by the basin stakeholders with oversight and review by LARWQCB. Following the release of the Draft SED for public review, it is anticipated that there will be comments on its technical and regulatory aspects. LARWQCB will take the lead in responding to the comments that reference the regulatory process, while the basin stakeholders will be the lead for responding to technical comments. It will be necessary for stakeholders and LARWQCB to work in collaboration to make necessary revisions to the SED in response to public comments.

Once the SNMPs have been approved and specific projects are to be implemented, the stakeholders will be responsible for conducting project-specific environmental analyses[1], when applicable, in accordance with CEQA while meeting all other applicable regulatory requirements. In addition, the management actions identified in a SNMP may be adopted as amendments to the Basin Plan by the Regional Water Board, and CEQA analysis is a required part of the adoption process in accordance with the SWRCB's Certified Regulatory Program. As such, for the purpose of LARWQCB adoption of a Basin Plan Amendment, the LARWQCB will be the lead agency for purposes of CEQA. Thus, preparation of the environmental documentation for consideration and adoption by the LARWQCB Board will be the responsibility of the LARWQCB. As stated in the SNMP Assistance Document, the SED will be considered by the LARWQCB as part of the adoption of the management actions and proposed major recycled water projects described in the SNMP. Approval of the SED is separate from approval of a specific project or a component of a program alternative. Approval of the SED refers to the process of: (1) addressing comments, (2) confirming that the LARWQCB considered the information in the SED, and (3) affirming that the SED reflects independent judgment and analysis by the LARWQCB (California Code of Regulations [CCR], Title 14, Division 6, Chapter 3 *Guidelines for Implementation of the California Environmental Quality Act* [CEQA Guidelines], Sections 10590 and 15090).

2.3 Purpose of CEQA

CEQA requires that State and local agencies determine the potential significant environmental impacts of proposed projects and identify measures to avoid or mitigate these impacts where feasible. As set forth in the Recycled Water Policy, the SWRCB finds that the use of recycled water which supports the sustainable use of groundwater and/or surface water that is sufficiently treated so as not to adversely impact public health or the environment and which ideally substitutes for use of potable water is presumed to have a beneficial impact. This presumption was utilized in the evaluation of the impacts of management actions and proposed major recycled water projects on the environment, as required by CEQA.

The basic purposes of CEQA 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 alternatives or mitigation measures when feasible, and 4) disclose to the public why an agency approved a project if significant effects are involved (CCR, Title 14, Section 15002(a)).

[1] A project-level Environmental Impact Report has been prepared for the City of Malibu's Civic Center Wastewater Facility project, and was certified in January of 2015.

To meet the objectives listed above, a CEQA review is to be viewed in light of what is reasonably feasible. CEQA documents need only to be a good faith effort at full disclosure (CCR, Title 14, Section 15151). A CEQA document also does not require unanimity of opinion among experts. The analysis is satisfactory as long as those opinions are considered (CCR, Title 14, Section 15151). For this SED, the LARWQCB and MVGB stakeholders have performed a good faith effort at full disclosure of the reasonably-foreseeable environmental impacts that could occur with adoption of the proposed MVGB SNMP Implementation Plan as a Basin Plan Amendment.

2.4 EXEMPTION FROM CERTAIN CEQAREQUIREMENTS

As a proposed amendment to the Basin Plan, the SNMP Implementation Plan is part of the basin planning process of the Water Boards (i.e. SWRCB and RWQCBs). The California Secretary for Natural Resources had certified that the basin planning process is exempt from certain CEQA requirements, including preparation of an initial study, negative declaration, or environmental impact report (CCR, Title 14, Section 15251(g)). However, as a Certified Regulatory Program, the basin planning process remains subject to other provisions of CEQA, such as the requirement to avoid significant adverse effects on the environment where feasible (CCR, Title 14, Section 15250). This SED is the substitute for the initial study, negative declaration, and environmental impact report and, as required, includes a description of the proposed activity, identification of potentially significant effects on the environment (if any), and identification of alternatives to the activity or mitigation measures to avoid or reduce potentially significant effects on the environment (CCR, Title 23, Section 3777(a)). The LARWQCB is required to comply with the SWRCB regulations set forth in CCR, Title 23, Sections 3775 *et. seq*., and PRC Section21159.

2.5 CALIFORNIA CODE OF REGULATIONS ANDPUBLIC RESOURCESCODE REQUIREMENTS

While the basin planning process, as a Certified Regulatory Program of the RWQCB, is exempt from certain CEQA requirements, it is subject to substantive requirements of CCR, Title 23, Section 3777, which requires a written report (i.e. SED) that includes a description of the proposed activity, an environmental analysis of reasonable program alternatives, and identification of mitigation measures to minimize any significant adverse environmental impacts. Section 3777(a) also requires completion of an Environmental Checklist. Any water quality control plan, state policy for water quality control, and any other components of California's water quality management plan as defined in the Code of Federal Regulations, Title 40, Sections 130.2(k) and 130.6, proposed for RWQCB approval or adoption must include or be accompanied by an SED and supported by substantial evidence in the administrative record. The Draft SED may be comprised of a single document or a compilation of documents. The Draft SED must be circulated prior to RWQCB action approving or adopting a project as specified in CCR, Title 23, Sections 3778 and 3779. The Draft SED shall be a written report containing an environmental analysis of the proposed project, a completed Environmental Checklist, and other documentation the RWQCB deems necessary. The Draft SED shall include at a minimum the followinginformation:

- A brief description of the proposedproject;
- Identification of any significant or potentially significant adverse environmental impactsof
- the proposed project;
- An analysis of reasonable alternatives to the project and mitigation measures to avoid or reduce any significant or potentially significant adverse environmental impacts; and
- An environmental analysis of the reasonably foreseeable methods ofcompliance.

This environmental analysis shall include, at a minimum all of the following:

- An identification of the reasonably foreseeable methods of compliance with the project;
- An analysis of any reasonably foreseeable significant adverse environmental impacts associated with those methods of compliance;
- An analysis of reasonably foreseeable alternative methods of compliance that would have less significant adverse environmental impacts; and
- An analysis of reasonably foreseeable mitigation measures that would minimize any unavoidable significant adverse environmental impacts of the reasonably foreseeable methods of compliance.

In the preparation of the environmental analysis described above, the RWQCB may utilize numerical ranges or averages where specific data are not available; however the RWQCB shall not engage in speculation or conjecture. The environmental analysis shall take into account a reasonable range of environmental, economic, and technical factors, population and geographic areas, and specific sites, but the RWQCB shall not be required to conduct a site-specific project level analysis of the methods of compliance, which CEQA may otherwise require of those agencies who are responsible for complying with the plan or policy, when they determine the manner in which they will comply.

As to each environmental impact, the SED shall contain findings as described in State CEQA Guidelines (CCR, Title 14, Section 15091), and if applicable, a statement of overriding considerations as described in CCR, Title 14, Section 15093. If the RWQCB determines that no fair argument exists that a proposed program alternative could result in any reasonably foreseeable significant adverse environmental impacts, the SED shall include a finding to that effect in lieu of the analysis of alternatives and mitigation measures.

In addition to the CCR, California Public Resources Code (PRC) Section 21159 also requires the RWQCB to conduct an environmental analysis of the reasonably foreseeable methods of compliance 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 . . . ." PRC Section 21159 has the same minimum requirements as CCR Title 23 for the environmental analysis which the RWQCB is also required to fulfill along with the same considerations. PRC Section 21159(c) requires that the environmental analysis take into account a reasonable range of environmental, economic, and technical factors; population and geographic areas; and specific sites. A "reasonable range" does not require an examination of every site, but a reasonably representative sample of them.

2.6 Program-Level versus Project-Level Environmental Analyses

PRC Section 21159(d) states that the RWQCB is not required to conduct a "project-level analysis." As such, the analysis in this SED is a program level (i.e., macroscopic) analysis of environmental impacts. CEQA describes a program-level environmental analysis as one prepared for a series of actions that can be characterized as one large project and are related either (1) geographically, (2) as logical parts in the chain of contemplated actions, (3) in connection with issuance of rules, regulations, or plans, or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways (CCR, Title 14, Section 15168).

In accordance with PRC Section 21159(a), this SED does not engage in speculation or conjecture. This SED identifies the reasonably foreseeable environmental impacts associated with the reasonably foreseeable methods of compliance for the SNMP Implementation Plan (PRC, Section 21159(a)(1)), based on information developed before, during, and after the CEQA Scoping Meeting (refer to Section 2.7 of this

SED for further details). When the CEQA analysis identifies a potentially significant environmental impact, the accompanying analysis identifies reasonably foreseeable feasible mitigation measures (PRC, Section 21159(a)(2)). Because the MVGB stakeholders intend to carry out combination of management actions and the one major recycled water project identified in the SNMP, this SED evaluated two program alternatives that represent the reasonably foreseeable alternatives (PRC, Section 21159(a)(3); refer to Section 5 of this SED for further details).

Subsequent project-level environmental analyses will be (and have been) performed, as required by CEQA, by the local agencies that will implement the projects and programs proposed in the SNMP (PRC, Section 21159.2). Notably, the RWQCB is prohibited from specifying the manner of compliance with its regulations (California Water Code, Section 13360), and accordingly, the actual environmental impacts of specific projects will necessarily depend upon the compliance strategy selected by the local implementing agencies and other permittees. The environmental analysis of the program alternatives presented in this SED assumes that the MVGB stakeholders will design, install, and maintain projects and programs following all applicable laws, regulations, ordinances, and formally adopted municipal and/or agency codes, standards, and practices.

This SED evaluates potential cumulative impacts to groundwater quality due to the implementation of proposed projects and programs developed by the MVGB stakeholders and presented in the SNMP to manage salts and/or nutrients on a sustainable basis. Because the results of this program-level CEQA analysis can be used in future CEQA analyses for individual projects, the SED may be used to facilitate streamlining of these future project-level CEQA analyses. As stated as Item 2c in the Recycled Water Policy, "*This* [Recycled Water] *Policy describes permitting criteria that are intended to streamline the permitting of the vast majority of recycled water projects. The intent of this streamlined permit process is to expedite the implementation of recycled water projects in a manner that implements state and federal water quality laws while allowing the Regional Water* [Quality Control] *Boards to focus their limited resources on projects that require substantial regulatory review due to unique site-specific conditions.*" (LARWQCB, 2009) The SED facilitates adoption of the Basin Plan Amendment, which will be based on the SNMP.

2.7 CEQA Scoping Meeting

Pursuant to PRC Section 21083.9, a CEQA Scoping Meeting must be held to receive comments on the appropriate scope and content of the SED supporting any amendments to the Basin Plan. The purpose of this public meeting is to scope the proposed management actions and major recycled water project that were developed by the MVGB stakeholders for groundwater basin management and to determine, with input from interested agencies and persons, if those means could result in significant adverse impacts to the environment. Information garnered from this process shall be considered during development of the Draft SED and, where applicable, may be incorporated into the Final SED. In the MVGB, the CEQA process was initiated during the SNMP development process after the management actions were proposed by the stakeholders to work in combination with the one proposed major recycled water project overlying the groundwater basin. The CEQA Scoping Meeting for the MVGB SNMP was held jointly by the LARWQCB and basin stakeholders on July 28, 2015 at the City of Malibu City Hall. At this public meeting, LARWQCB, the City of Malibu, and the City's consultant, RMC Water and Environment, gave presentations describing the Recycled Water Policy, general CEQA process, key SNMP findings, the City's proposed CCWTF project, basin management actions, and environmental criteria for the CEQA evaluation. This meeting was attended by the MVGB stakeholders, representatives of the general public, consultants, and LARWQCB staff.

As the lead agency for the CEQA process, LARWQCB prepared and issued the Notification of the CEQA Scoping Meeting to all interested parties and was designated as the entity to receive all public comments regarding the proposed SED scope and content. A 30-day public comment period was established by LARWQCB and comments were also solicited during the July 28th CEQA Scoping Meeting. Only one set of comments regarding the proposed environmental analysis were received by LARWQCB; responses to those comments are presented in Appendix D this SED.

Although not required as part of the CEQA process, the MVGB stakeholders also prepared a Project Summary that concisely presented the key SNMP findings and management actions, and described the one proposed major recycled water project in the basin. The Project Summary was distributed prior to and during the July 28, 2015 CEQA Scoping Meeting and was also distributed by LARWQCB along with the Notification of the CEQA Scoping Meeting to all interested parties. Documents associated with the CEQA Scoping Meeting, including the meeting Notification, presentations, sign-in sheet, and Project Summary, can be downloaded from the LARWQCB website: http://www.swrcb.ca.gov/rwqcb4/water_issues/programs/salt_and_nutrient_management/index.shtml

3 ENVIRONMENTAL SETTING

3.1 LAND USES

Development overlying the MVGB is predominantly urban in nature, and includes a significant amount of residential development and undeveloped land. The basin is flanked on both sides by canyons - the Sweetwater Canyon to the east, and the Winter Canyon to the west. The Malibu Coast Fault is mapped across the basin in an east-west direction and is aligned approximately along Civic Center Way (Leighton, 1994); however, this fault is not a groundwater barrier (DWR, 1975) and is not classified as an active fault under the Aquist-Priolo Act.

3.2 CLIMATE

The Malibu Valley Groundwater Basin is located in a Mediterranean climate, characterized by cool wet winters and warm dry summers, with the majority of precipitation occurring between November and April. This area lies in the semi-permanent high-pressure zone of the Eastern Pacific; as a result, the climate is mild, tempered by cool sea breezes, and occasionally interrupted by infrequent periods of extremely hot weather, winter storms or Santa Ana winds. Average annual rainfall is about 12 inches (Jones and Stokes, 2009).

3.3 GROUNDWATER BASIN OVERVIEW

The Malibu Valley Groundwater Basin (DWR groundwater basin no. 4-22) is a small alluvial basin, approximately 613 acres in size, located along the Los Angeles County coastline (Figure 3-1). The basin is bounded by the Pacific Ocean on the south, and by the Santa Monica Mountains, composed of non-water-bearing Tertiary age rocks, on all remaining sides. The valley is typified by steep canyons that generally run north to south, and is drained by Malibu Creek to the Pacific Ocean (DWR, 2003).

Figure 3-1: Malibu Valley Groundwater Basin

In general, there are four hydrostratigraphic units within the Malibu Valley Groundwater Basin (from shallowest to deepest): shallow alluvium, a low permeability zone that covers most of the groundwater basin, Civic Center Gravels, and bedrock. Bedrock is at or near land surface in the upland areas, and beneath the unconsolidated sediments that are present in the Civic Center Area along Malibu Creek and Lagoon. Historical groundwater use has been from the shallower alluvium, which has been shown to be in hydraulic connection with the adjacent Malibu Creek and the ocean. At present, all potable water demands are met by imported water delivered by Los Angeles County Waterworks District 29, and the groundwater basin, while designated as Municipal under the LARWQCB's *Water Quality Control Plan: Los Angeles Region* (Basin Plan), is not presently used for local water supplies.

3.4 GROUNDWATER QUALITY

Limited groundwater quality data exist for the MVGB. In general, shallow groundwater in the basin appears to be affected by tidal influences in Malibu Lagoon and along the shoreline. Groundwater samples collected from wells adjacent to Malibu Lagoon indicate elevated sodium and chloride concentrations, with concentrations decreasing with distance from the tidal channel. Groundwater samples also indicate elevated levels of magnesium and sulfate, commensurate with, but somewhat lower than, the concentrations observed in the deeper groundwater.

Little data exist regarding the deeper groundwater quality of the Civic Center Gravels. Overall, groundwater quality in the Civic Center Gravels is of good quality with near neutral pH, high silica, low iron and relatively low manganese concentrations. Geochemical analyses of samples from the Civic Center Gravels indicate that there is generally little difference in the major ionic composition of groundwater in this zone. On the whole, groundwater in the basin meets primary and secondary drinking water standards for all constituents except total dissolved solids, sulfate, and chloride. Additionally, manganese concentrations, while generally low, are at or above the current aesthetic drinking water standard of 0.050 mg/L. Finally, groundwater in the Civic Center Gravels contains nutrient parameters at concentrations less than their detection limits. These parameters include Total Kjeldahl Nitrogen (TKN), ammonia, nitrate, total phosphorus and orthophosphate

Differences in Civic Center Gravel groundwater do exist, predominantly in regards to the sulfate-bicarbonate percentages. Groundwater in the central and eastern side of the basin (as observed at either end of Legacy Park) are typically of either a sodium-magnesium-calcium-sulfate water chemistry type or sodium-calcium-sulfate chloride water chemistry type, with increasing concentrations of manganese, sulfate and TDS as one moves to the west and south. Groundwater in the southern part of the basin, as measured on Malibu Road, is an unusual magnesium-sodium-sulfate water chemistry type containing the highest concentrations of sulfate and TDS measured in the basin. Groundwater in the eastern side of the basin, near Malibu Lagoon and Creek, generally contains a minor seawater component, while groundwater south of Pacific Coast Highway appears to be more affected by seawater than at other locations in the groundwater basin.

Chloride, TDS, and sulfate occur naturally in the groundwater basin. The Monterey/Modelo Formation is a predominant geologic formation in the northern Malibu Creek watershed, and is a natural source of these constituents to the groundwater basin (LVMWD, 2007). Additionally, the groundwater basin is in direct connection with both the Pacific Ocean and Malibu Creek and Lagoon, and therefore these saltwater-surface water interactions also contribute to groundwater quality. Records going back to the 1960s indicate that there have been groundwater quality issues in the area for decades, including incidences of saltwater intrusion resulting from basin overdraft, which was a primary driver for the

formation of a public water district and the importation of State Water Project (SWP) water in the mid-1960s. The majority of the groundwater wells in the 1960s produced water with TDS concentrations higher than the current SMCLs and most were ultimately abandoned upon the arrival of imported potable water. High TDS, sulfate and chloride levels predate urban development and imported water supplies, and are likely intrinsic of native groundwater quality (LVMWD, 2007).

As required by the Recycled Water Policy, the SNMP includes the identification of salt and nutrient sources, calculations of assimilative capacity and loading estimates, and a description of the fate and transport of salt and nutrients in groundwater. The following subsections describe the indicator constituents for salt and nutrients that were identified in the SNMP, discuss the fate and transport of these salt and nutrients in groundwater, and provide a summary of the existing groundwater quality that was determined from the SNMP analysis.

3.4.1 Indicator Constituents for Salt and Nutrients

The major dissolved ions potentially included in recycled water that reflect its salinity and nutrient content are many and varied, and include sulfate, chloride, nitrate, iron, boron and manganese. Simulation of each constituent is beyond the scope of a SNMP; therefore, indicators of salt and nutrient loading to the MVGB were selected for further study in the SNMP.

In choosing which constituents to consider in the SNMP, the following criteria/questions were used to identify a select number of constituents for further consideration:

- Is the constituent regularly monitored and detected in sourcewaters?
- Is the constituent representative of other salts andnutrients?
- Is the constituent conservative and mobile in theenvironment?
- Is the constituent found in source waters at concentrations above those found in ambient groundwater?
- Does the constituent have high toxicity for human health or will it otherwise affect beneficial use?
- Is the constituent a known contaminant in groundwater in the study area?
- Have the concentrations of the constituents been shown to be increasing in the study area?
- Is the constituent subject to a water quality objective (WQO) within the Basin Plan?

Each selected indicator constituent of salts and nutrients is not required to meet all the criteria, but as a group, at least one should meet each criterion.

Very little groundwater quality data current exist for the Civic Center Gravels (the deeper aquifer of the MVGB); therefore, to a great extent, the selection of indicator constituents was driven by what data were available at the time the SNMP was prepared for use in establishing background water quality. To that end, total dissolved solids (TDS) and nitrate were selected as the indicator constituents for salts and nutrients, respectively, for the MVGB. These selections were considered justifiable as total salinity is commonly expressed in terms of TDS in milligrams per liter (mg/L). TDS (and electrical conductivity data that can be converted to TDS) were available for source waters (both inflows and outflows) into and from the groundwater basin. While TDS can be an indicator of anthropogenic impacts, such as infiltration of runoff, soil leaching, saltwater intrusion and land use, there is also a natural background TDS concentration in groundwater. Furthermore, TDS includes ions and ionic compounds, including sulfate and chloride among others. Sulfate and chloride were not chosen as indicator parameters due to the lack of available data (and therefore associated difficulties in being able to establish current background concentrations and in simulating changes in concentrations resulting from recycled water use) and as TDS, sulfate and chloride concentrations can be correlation to some extent in the MVGB (and therefore the

base assumption in the SNMP that trends in TDS will reflect similar trends in sulfate and chloride concentrations as all three constituents are conservative).

Nitrate is a widespread contaminant in California groundwater. High levels of nitrate in groundwater are generally associated with agricultural activities, septic systems, landscape fertilization, and wastewater treatment facility discharges. Nitrate is the primary form of nitrogen detected in groundwater. Natural nitrate levels in groundwater are generally very low, with concentrations typically less than 10 mg/L for nitrate as nitrate (nitrate-NO_3) or 2 to 3 mg/L for nitrate as nitrogen (nitrate-N). Nitrate is commonly reported as either nitrate-NO_3 or nitrate-N; and one can be converted to the other. Nitrate-N is selected for the assessment of nutrients in the MVGB SNMP.

3.4.2 Salt and Nutrient Fate and Transport

Salt and nutrient fate and transport describes the way salts and nutrients move and change through an environment or media. In groundwater, it is determined by groundwater flow directions and rate, the characteristics of individual salts and nutrients, and the characteristics of the aquifer media.
Water has the ability to naturally dissolve salts and nutrients along its journey in the hydrologic cycle. The types and quantity of salts and nutrients present determine whether the water is of suitable quality for its intended uses. Salts and nutrients present in natural water result from many different sources, including atmospheric gases and aerosols, weathering and erosion of soil and rocks, and from dissolution of existing minerals below the ground surface. Additional changes in concentrations can result from ion exchange, precipitation of minerals previously dissolved, and reactions resulting in conversion of some solutes from one form to another (such as the conversion of nitrate to gaseous nitrogen). In addition to naturally occurring salts and nutrients, anthropogenic activities can add salts and nutrients to groundwater.

TDS and nitrate are contained in source waters that recharge the MVGB. Addition of new water supply sources, either through intentional or unintentional recharge, can change the groundwater quality either for the worse, by introducing contamination, or for the better, by diluting some existing contaminants in the aquifer. This effect can occur, for example, when irrigation water exceeds evaporation and plant needs and infiltrates into the aquifer (i.e., irrigation return flow). Irrigation return flows can carry fertilizers high in nitrogen and soil amendments high in salts from the yard or field into the aquifer. Similarly, recycled water used for irrigation also introduces salts and nutrients.

TDS is considered conservative in that it does not readily attenuate in the environment. Sulfate and chloride are also considered conservative, and the fate and transport of these constituents would be the same as for TDS. In contrast, processes that affect the fate and transport of nitrogen compounds are complex, with transformation, attenuation, uptake, and leaching in various environments. Nitrogen is relatively stable once in the saturated groundwater zone, and nitrate is the primary form of nitrogen detected in groundwater. It is soluble in water and can easily pass through soil to the groundwater table. Nitrate can be removed naturally from water through denitrification.

3.4.3 Water Quality Objectives

Water quality objectives provide a reference for assessing groundwater quality in the MVGB. The California Department of Public Health (CDPH) has adopted a Secondary Maximum Contaminant Level (SMCL) for TDS. SMCLs address aesthetic issues related to taste, odor, or appearance of the water and are not related to health effects, although elevated TDS concentrations in water can damage crops, affect plant growth, and damage municipal and industrial equipment. While the U.S. Environmental Protection Agency (USEPA) recommended SMCL for TDS is 500 mg/L, the SWRCB has established a Basin Plan WQO

of 2,000 mg/L for TDS in the MVGB. The USEPA has also set the SMCL for chloride at 250 mg/L and recommends a 400-500 mg/L MCL for sulfate. The WQOs for both constituents in the MVGB is 500 mg/L.

The Primary Maximum Contaminant Level (PMCL) for nitrate-nitrogen plus nitrite-nitrogen (as N) is 10 mg/L. Unlike SMCLs, PMCLs are set to be protective of human health. The SWRCB has utilized the PMCL for nitrate-N as the numerical WQO for the MVGB in its Basin Plan for groundwater. Water Quality Objectives for nitrate-N are not included in the California Ocean Plan; however, numeric limits for ammonia are included (600 micrograms per liter [μg/L] for a 6-month median, 2,400 μg/L for a daily maximum, and 6,000 μg/L as an instantaneous maximum). For the assimilative capacity analysis and subsequent anti-degradation analysis prepared for the MVGB SNMP, a reference value of 10 mg/L of nitrate-N was used. Ammonia is not considered in the SNMP as the recycled water is expected to contain little to no ammonia.

Table 3-1 summarizes the numerical WQOs for the MVGB, designated as a Potential Municipal (MUN) supply in the LARWQCB Basin Plan.

Table 3-1: Basin Plan Objectives

Constituent	Units	WQOs
TDS	mg/L	2,000
Nitrate-N	mg/L	10
Chloride	mg/L	500
Sulfate	mg/L	500

Source: LARWQCB, 1994

3.4.4 Existing Salt and Nutrient Groundwater Quality

3.4.4.1 Total Dissolved Solids

Table 3-2 summarizes the average TDS concentration in the MVGB and compares it against the Basin Plan WQO for that constituent. The difference between these two values, if the WQO is higher than the average groundwater quality concentration, is known as the assimilative capacity of the groundwater basin for that constituent (SWRCB, 2009). Assimilative capacity is the groundwater basin's ability to absorb constituents without exceeding WQOs. In this case, the average TDS concentration of groundwater in the MVGB presently exceeds the Basin Plan WQO and therefore no assimilative capacity exists for TDS in the groundwater basin.

Figure 3-2 shows TDS concentration contours across the groundwater basin based on data from GeoTracker from 2000 to 2013 (SWRCB, 2015). Generally, relatively low TDS concentrations (less than 2,000 mg/L) are observed throughout most of the basin; however some areas of the groundwater basin do have elevated TDS levels, primarily as a result of either direct connection with ocean waters and/or as a result of historical sea water intrusion. One well in particular, on the east side of the basin shows elevated concentrations (above 4,000 mg/L) and results in a significant impact on the groundwater basin's spatial average.

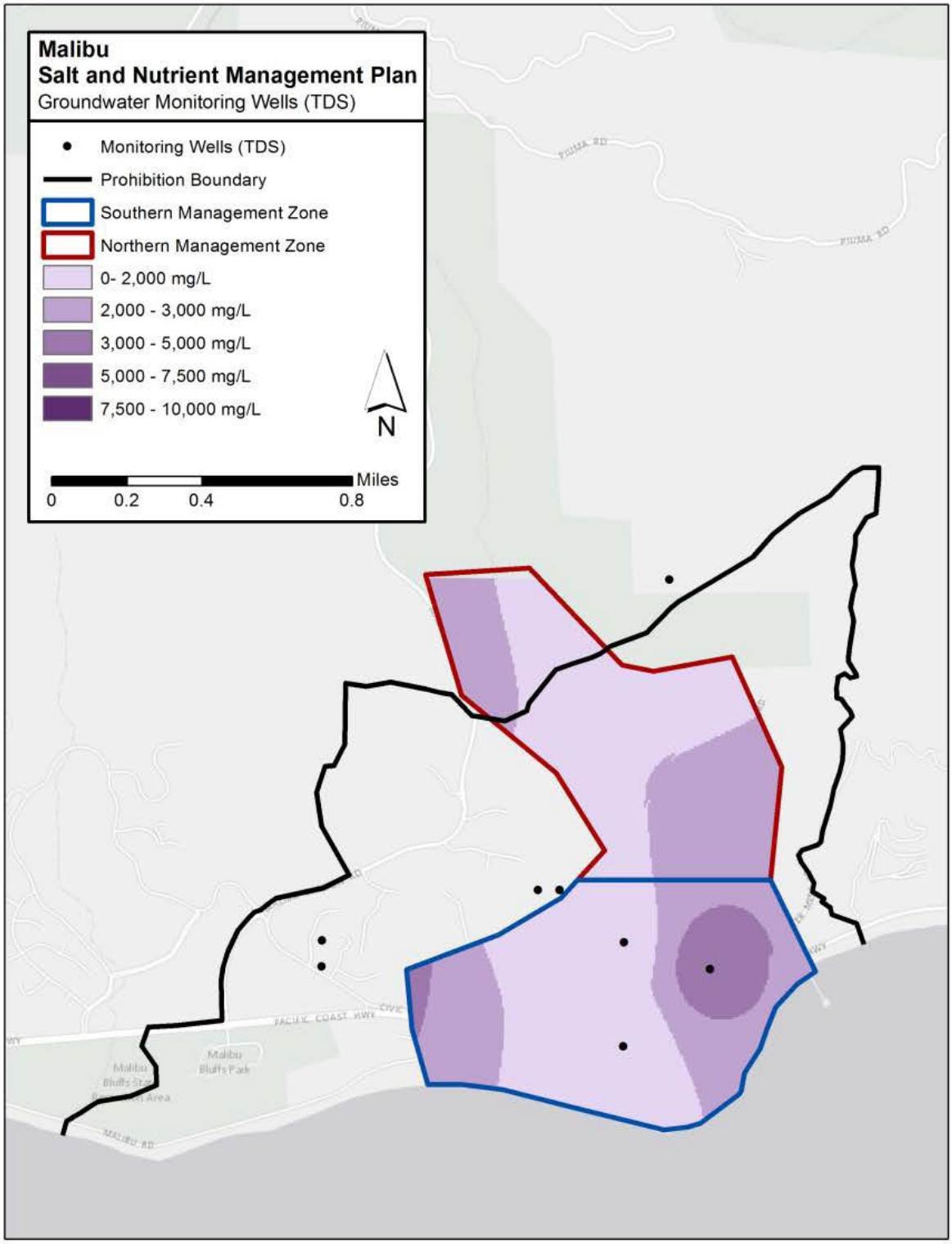
Table 3-2: Average TDS Concentrations and Available Assimilative Capacity

Malibu Valley Groundwater Basin	
Water Quality Objective[1]	2,000
Northern Management Zone Concentration[2]	2,000
Southern Management Zone Concentration[2]	2,200
Basin-wide Concentration[2]	2,100
Northern Zone Available Assimilative Capacity	0
Southern Zone Available Assimilative Capacity	0
Basin-wide Assimilative Capacity	0

Note: All concentrations are in mg/L

1. Source: LARWQCB, 1994.
2. Based on data collected from 2000 to 2013 (SWRCB,2015).

Figure 3-2: Total Dissolved Solids Concentrations in the Malibu Valley Groundwater Basin



3.4.4.2 Sulfate in Groundwater

As shown in Table 3-3, sulfate concentrations in the southern management zone and on a basin-wide average exceed the WQO of 500 mg/L and therefore no assimilative capacity currently exists for sulfate. The average sulfate concentration in the northern management zone is 394 mg/L, resulting in an assimilative capacity of 196 mg/L. The mean concentrations for the northern management zone, southern management zone, and basin-wide are based on data from GeoTracker from 1953 to 1969 (SWRCB, 2015). More recent data were not available. The concentration contour map for sulfate is shown in Figure 3-3. As shown in this figure, there are areas of relatively low sulfate concentrations and concentrated areas of high concentrations exceeding 800 mg/L.

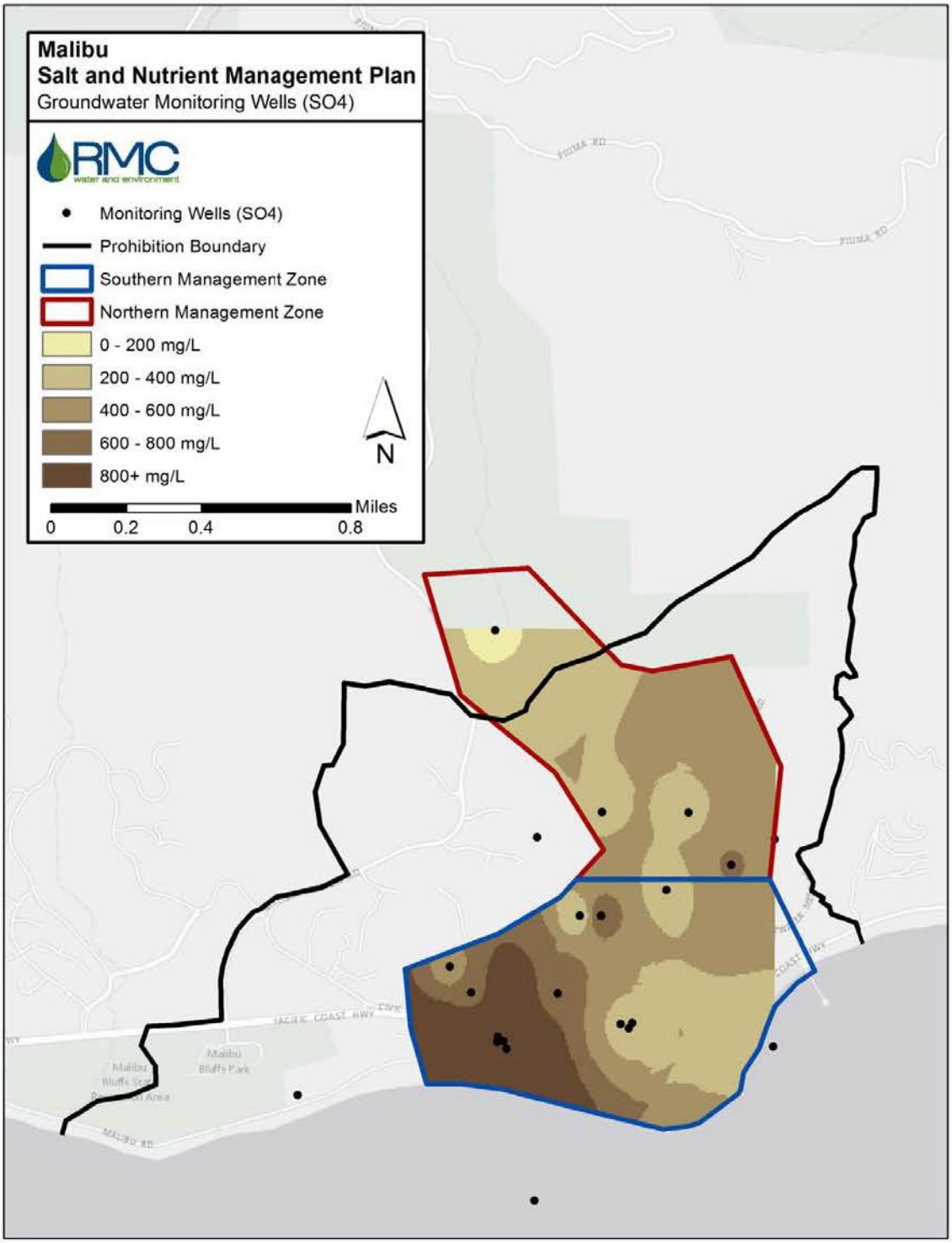
Table 3-3: Average Sulfate Concentrations and Available Assimilative Capacity

Malibu Valley Groundwater Basin	
Water Quality Objective[1]	500
Northern Management Zone Concentration[2]	394
Southern Management Zone Concentration[2]	619
Basin-wide Concentration[2]	520
Northern Zone Available Assimilative Capacity	106
Southern Zone Available Assimilative Capacity	0
Basin-wide Available Assimilative Capacity	0

Note: All concentrations are in mg/L

1. Source: LARWQCB, 1994.
2. Based on data collected from 1953 to 1969 (SWRCB,2015).

Figure 3-3: Sulfate Concentrations in the Malibu Valley Groundwater Basin



3.4.4.3 Chloride in Groundwater

The mean chloride concentrations for the northern management zone, southern management zone, and basin-wide, as calculated using data from GeoTracker from 1953 to 1969 (SWRCB, 2015), were compared to the WQO for chloride (500 mg/L) in Table 3-4. More recent data were not available for use in this calculation. As shown in the table below, there is a basin-wide assimilative capacity of 288 mg/L. Figure 3-4 shows the chloride concentration contours in the groundwater basin. The higher concentrations tend to be near the ocean and lagoon indicating tidal and seawater influences on groundwater quality.

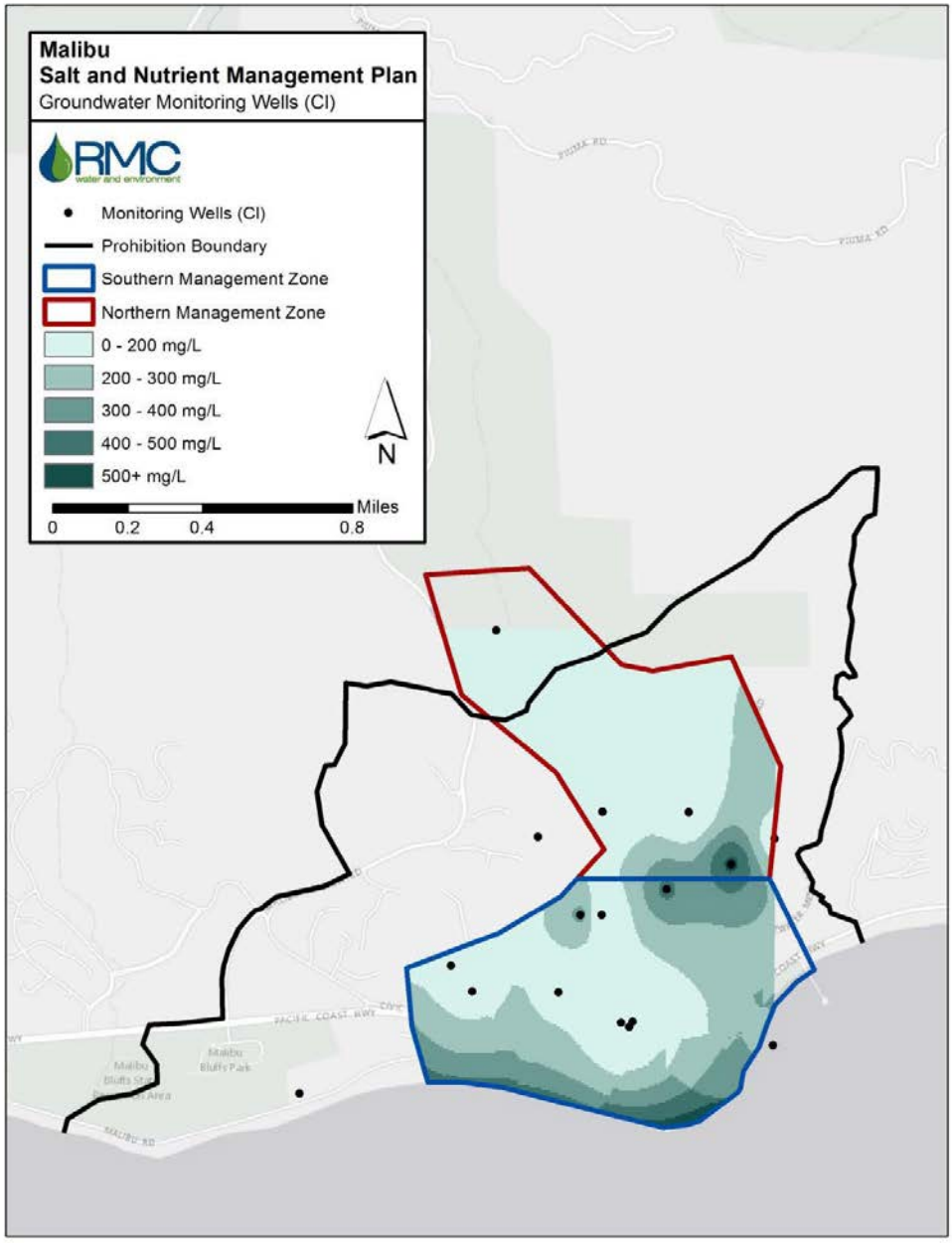
Table 3-4: Average Chloride Concentrations and Available Assimilative Capacity

Malibu Valley Groundwater Basin	
Water Quality Objective[1]	500
Northern Management Zone Concentration[2]	170
Southern Management Zone Concentration[2]	244
Basin-wide Concentration[2]	212
Northern Zone Available Assimilative Capacity	330
Southern Zone Available Assimilative Capacity	256
Basin-wide Available Assimilative Capacity	288

Note: All concentrations are in mg/L

1. Source: LARWQCB, 1994.
2. Based on data collected from 1953 to 1969 (SWRCB,2015).

Figure 3-4: Chloride Concentrations in the Malibu Valley Groundwater Basin



3.4.4.4 Nitrate in Groundwater

Table 3-5 summarizes the average nitrate-N concentration in the MVGB based on data from GeoTracker from 2000 to 2013 (SWRCB, 2015) and compares it against the Basin Plan WQO for that constituent (10 mg/L for nitrate as N). Based on these concentrations, there is an assimilative capacity of 6.77 mg/L for nitrate in the groundwater basin. A nitrate concentration contour map is shown in **Error! Reference source not found.**. Generally low nitrate concentrations are observed throughout most of the groundwater basin, with higher readings outside of the basin near the western boundary of the Prohibition Zone, and higher concentrations found in the shallow groundwater as compared to the deeper aquifer. Background data is limited, so time concentration plots could not be developed to determine if nitrate-N concentrations across the groundwater basin have been increasing, decreasing, or showing no significant change (stable).

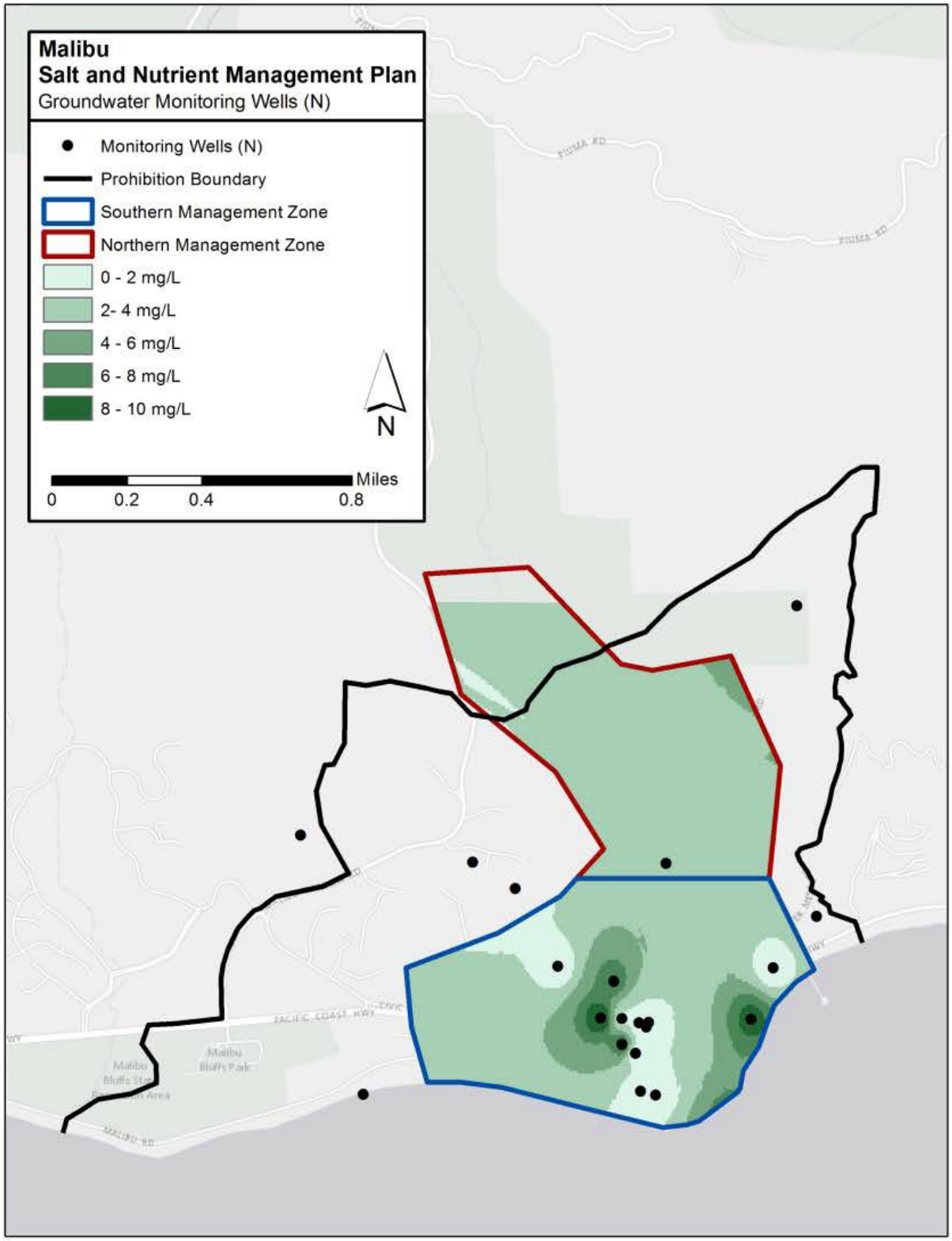
Table 3-5: Average Nitrate-N Concentrations and Available Assimilative Capacity

Malibu Valley Groundwater Basin	
Water Quality Objective[1]	10
Northern Management Zone Concentration[2]	2.78
Southern Management Zone Concentration[2]	3.29
Basin-wide Concentration[2]	3.23
Northern Zone Available Assimilative Capacity	7.22
Southern Zone Available Assimilative Capacity	6.71
Basin-wide Available Assimilative Capacity	6.77

Note: All concentrations are in mg/L

1. Source: LARWQCB, 1994.
2. Based on data collected from 2000 to 2013 (SWRCB,2015).

Figure 3-5: Nitrate-N Concentration in the Malibu Valley Groundwater Basin



3.4.5 Future Salt and Nutrient Groundwater Quality

This section describes the results from the analysis of future groundwater quality as a result of Project implementation. Two scenarios were evaluated in this analysis: (1) a No Project scenario that assumes continued use of existing onsite wastewater disposal systems (OWDSs or septic systems) in the Prohibition Area and projected land use at build-out per the City's General Plan; and (2) implementation of the CCWTF Project as previously described, replacing the use of OWDSs in the Prohibition Area and creating recycled water that can be beneficially reused in the project area. Under this second scenario, once fully implemented, the CCWTF Project will be the only recycled water project in the Malibu Valley Groundwater Basin and the recycled water produced by the CCWTF will be used for landscape irrigation and other nonpotable uses, with any unused recycled water injected into the MVGB. The modeling results simulating future groundwater conditions are presented in EIR for the CCWTF project (RMC and ICF, November 2014; Appendix C).

3.4.5.1 Simulation of Future Groundwater Quality under No Project and CCWTF Project Scenarios Groundwater quality concentrations for TDS and nitrate were simulated for the No Project and CCWTF Project scenarios using a spreadsheet-based analytical mixing model. This mixing model was developed in Microsoft EXCEL™ and is essentially a set of linked spreadsheets used to represent 'instantaneously mixed' groundwater volumes. This mixing model, combined with the loading analysis, was designed to account for current groundwater volumes and salt/nutrient masses in storage in the Malibu Valley Groundwater Basin, and to track the loading/unloading of salts and nutrients through various major groundwater sources and sinks under baseline (current) and future land and water use scenarios (based on the City's General Plan for future development through build-out). Concentration estimates were based on water and mass inflows and outflows (balances), mixed with the volume of water in storage in the groundwater basin and the average ambient groundwater quality (as previously described). The water balance components are based upon a MODFLOW groundwater flow model developed and used to simulate future impacts to the groundwater basin, and are further extrapolated such that the future groundwater quality analysis simulates the period of 2010 to 2039.

In the mass balance model, inflows and outflows are evaluated on an annual basis and applied to the previous model year basin or management area volume and water quality to determine the iterative water quality in the basin or management area. Simulations are on a basin-wide or management area-wide basis and do not consider localized hydrogeologic characteristics. Constituent concentrations of each of the inflow components are based on available water quality data or the surface loading estimates as previously described. As available surface and subsurface water quality data are limited, future revisions of this plan should confirm or revise constituent concentrations based on any additional available data.

A primary assumption of the mixing model is that the salt and nutrient mixing within a given mixing volume is complete during each annual timestep. While the Malibu Valley Groundwater Basin is relatively small, it has been divided into northern and southern management areas to simulate the 'worst-case' scenario in which the southern area accounts for both the highest density of future land use (and therefore the highest likelihood of land use-related salt and nutrient loading to the groundwater basin), plus all of the proposed CCWTF recycled water injection into the groundwater basin. The effect of the complete mixing assumption can have two potential errors, therefore, as related to the simulations: (1) overestimation or underestimation of the salt and/or nutrient concentrations assigned to subsurface flows between the two management areas, and (2) an overestimation of the effects of salt and/or nutrient loading changes associated with point sources (i.e. land use) in one or the other management areas. The effect of these two potential errors on the salt and nutrient transport between the two management areas is limited as flows between the two areas are generally fairly consistent, groundwater flows are

solely from the northern to southern management areas, the majority of the future changes that could result in loading to the groundwater basin occur in the southern management area. Therefore, the volume-weighted average concentrations are representative of the concentrations for the inter-area fluxes.

The baseline (current) period water balances estimates all groundwater inflows and outflows for the baseline period and the associated change in storage based on estimates provided by the MODFLOW groundwater flow model of the basin. Future changes in water balance components under the CCWTF Project Scenario simulated the cessation of septic system use by phase and the introduction of recycled water reuse (irrigation) and well injection. No other recycled water projects are considered in the analysis as the CCWT Project will be in the only recycled water project in thebasin.

TDS and nitrate concentrations are associated with each water balance inflow and outflow component. In order to simulate the effect of current and future salt and nutrient loading on groundwater quality in the groundwater basin, the spreadsheet mixing model 'mixed' the volume and quality of each inflow and outflow with the existing volume of groundwater and mass of TDS and nitrate in storage and tracked the annual change in groundwater storage and salt and nutrient masses for each year of simulation.

3.4.5.2 Simulation Results

The mass balance model was used to evaluate the effects of planned changes to the study area, including future salt and nutrient loadings on overall groundwater quality in the Malibu Valley Groundwater Basin, for the future planning period from 2010 to 2039. Future land use changes were superimposed over average water balance conditions during the 30-year baseline period (described above) to simulate future groundwater quality. The mixing model was then used to predict future water quality trends.

The model incorporated the existing volume of groundwater and masses of TDS and nitrate in storage, and tracked the annual change in groundwater storage and salt and nutrient mass for the groundwater basin as a whole over the study period. As previously mentioned, two future scenarios were simulated using the mixing model assuming build-out land use conditions:

- No Project Scenario – This scenario assumes average water balance conditions with no additional wastewater treatment (i.e., continued use of OWDSs) or recycled water injection.

- CCWTF Project Scenario – This scenario assumes recycled water irrigation and injection with centralized wastewater treatment/recycled water generation resulting in a total nitrogen concentration of 8 mg/L. No percolation in Winter Canyon is included in this scenario.

Under both scenarios, the average TDS and nitrate concentrations for the following water balance components were held constant:

- Deep percolation of areal precipitation
- Leakage from Malibu Creek and Lagoon
- Subsurface inflow from the Pacific Ocean

Average TDS and nitrate concentrations varied for other water balance components depending on model period and project implementation phasing (for the CCWTF Project Scenario).

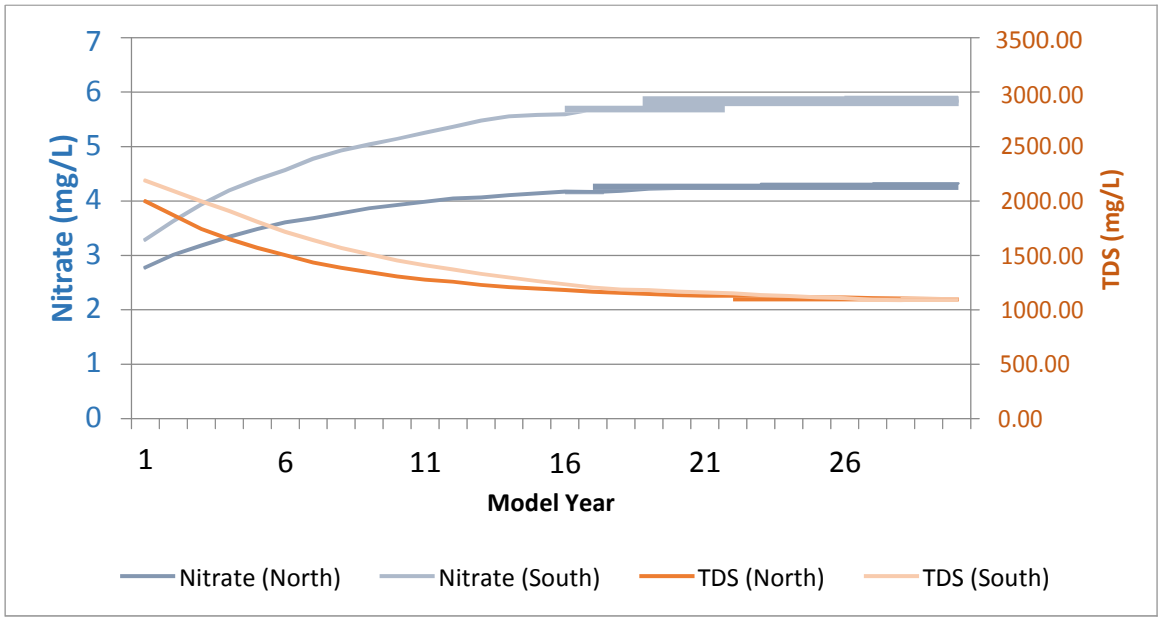
Total Dissolved Solids

Future changes in land use and implementation of the proposed CCWTF Project will not result in significant adverse changes to TDS loading to the groundwater basin. In fact, the TDS concentration of recycled water to be injected into the Malibu Valley Groundwater Basin will be less than existing ambient groundwater concentrations (estimated to be 2,000 mg/L in the Northern Zone and 2,200 mg/L in the Southern Zone). Consequently, the proposed recycled water injection project will not result in an altered future groundwater quality, and, if anything, will result in improvements to groundwater quality with respect to TDS in the injection area (Figure3-6).

Table 3-6: TDS Concentrations in Groundwater at End of Model Period

Scenario	Northern Zone TDS (mg/L)	Southern Zone TDS (mg/L)	Basin-wide TDS (mg/L)
Current Average Concentrations	2,000	2,200	2,100
Projected Conditions - No Project Scenario	1,097	1,095	936
Percent Assimilative Capacity Created	45%	55%	53%
Projected Conditions – CCWTF Project Scenario	1,105	1,115	934
Percent Assimilative Capacity Created	45%	54%	53%

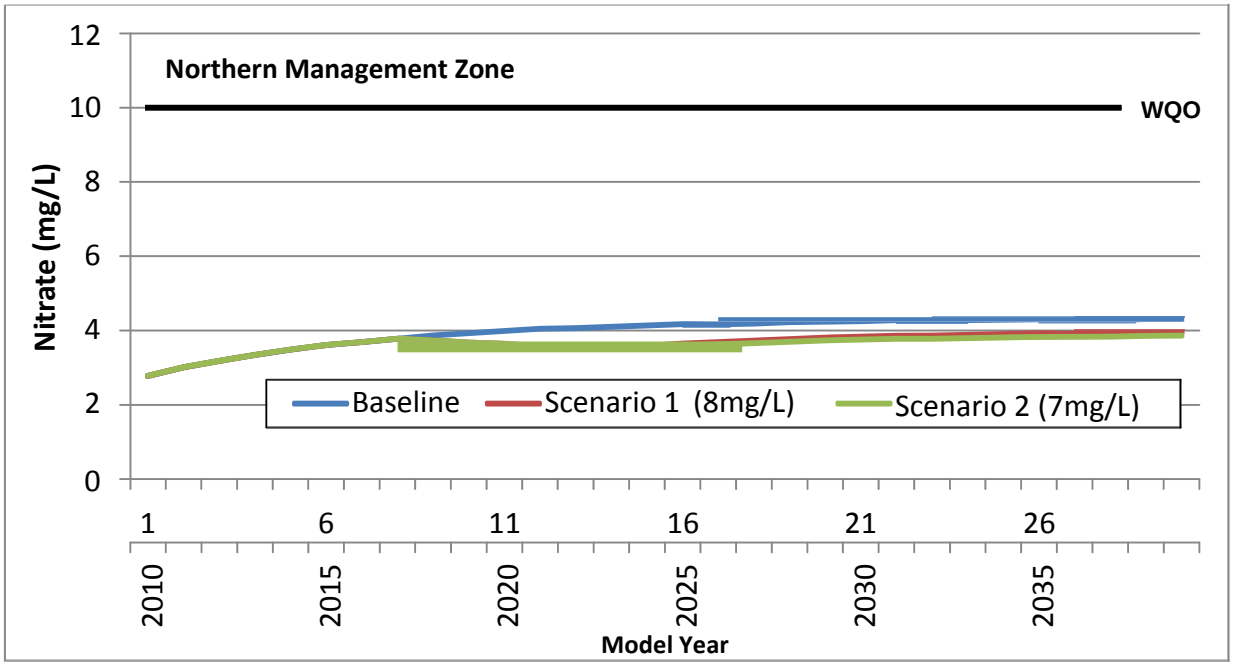
Figure 3-6: Simulated Baseline Average Groundwater Concentrations for Inland Area of the Malibu Valley Groundwater Basin



Nitrate

Figure 3-7 shows the results of the mixing model for nitrate-N for the three future conditions simulated. This figure plots the simulated future concentration trends for each scenario against the Basin Plan WQO of 10 mg/L. Table 3-7 summarizes the simulated average groundwater nitrate-N concentration at the end of the modeled period.

Figure 3-7: Simulated Future Groundwater Nitrate-N Concentrations



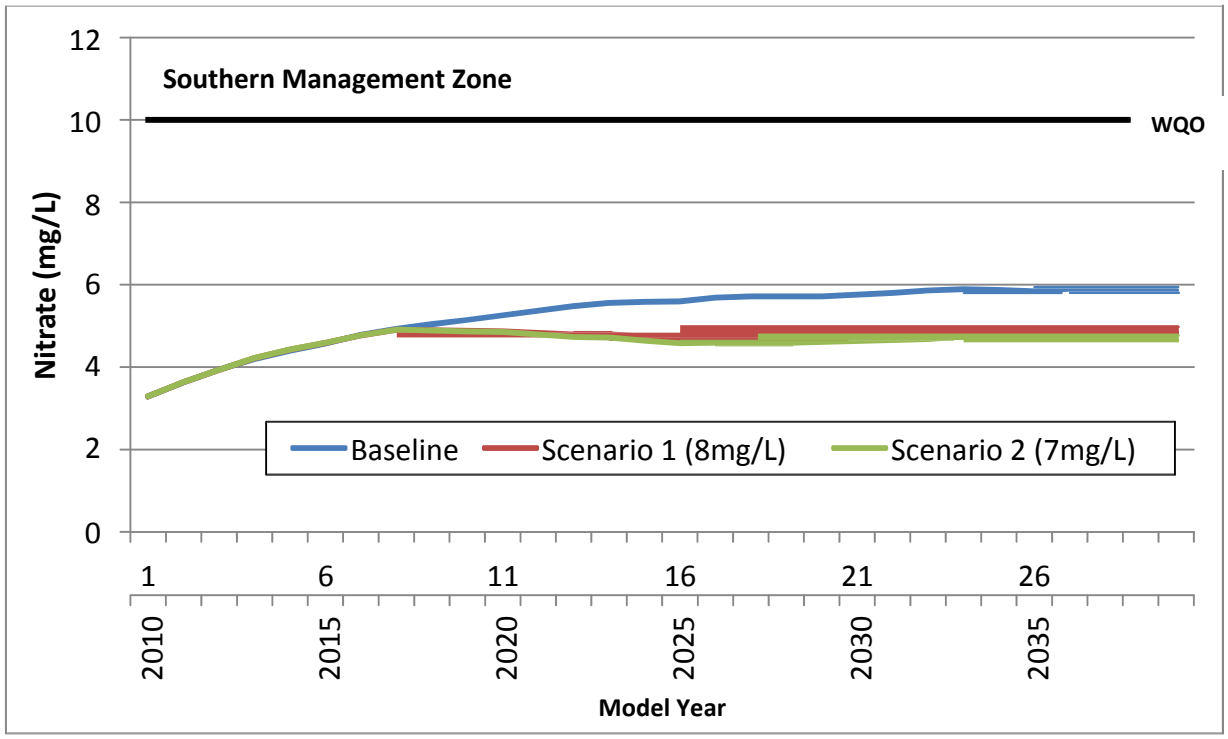


Table 3-7: Nitrate-N Concentrations in Groundwater at End of Model Period

Scenario	Northern Zone Nitrate- N (mg/L)	Southern Zone Nitrate- N (mg/L)	Basin-wide Nitrate- N (mg/L)
Current Average Concentrations	2.78	3.29	3.23
Projected Conditions – No Project Scenario	4.31	5.85	4.91
Percent Assimilative Capacity Used	21%	38%	25%
Projected Conditions - CCWTF Project Scenario	3.95	4.91	4.10
Percent Assimilative Capacity Used	16%	24%	13%

3.5 Beneficial Uses of Groundwater

The Basin Plan designates beneficial uses of groundwater in the Los Angeles Region (LARWQCB, 1994 and 2011). Beneficial uses are the cornerstone of the State's and LARWQCB's efforts to protect water quality, as water quality objectives are set at levels that will protect the most sensitive beneficial use of a waterbody. Any impairment to groundwater in the MVGB could impact the designated beneficial uses.

The Basin Plan designates one existing (E) and two potential (P) beneficial uses for groundwater in the MVGB: water supply (MUN) and industrial service supply (IND) are considered potential beneficial uses, and Agricultural Supply (AGR) is considered an existing beneficial use. These beneficial uses are briefly defined below.

- Water Supply Use (MUN) – Uses of water for community, military, or individual water supply systems including, but not limited to, drinking watersupply.
- Industrial Service Supply (IND) – Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil wellre-pressurization.
- Agricultural Supply (AGR) – Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

4 SNMP IMPLEMENTATION PLAN

This section summarizes the management actions and the one proposed major recycled water project that were identified by the MVGB stakeholders and discussed in the SNMP to manage salt and nutrient loadings on a sustainable basis and/or reduce dependence on imported potable water supplies by introducing the use of recycled water to meet nonpotable demands. These management actions and the recycled water project serve as the basis for the program alternatives, which are described in Section 5, that were evaluated in this SED.

As described in the SNMP, use of recycled water in the MVGB may add nutrient loading to groundwater and/or increase concentrations of indicator constituents in groundwater. However, the SNMP mixing model results clearly demonstrate that the existing and proposed management actions will offset potential negative impacts and thus, groundwater quality overall in the MVGB will either continue to improve and/or salt and/or nutrient concentrations will decrease to or remain below WQOs. Further details regarding the proposed management actions and the City's CCWTF project are discussed in the MVGB SNMP.

4.1 MANAGEMENT ACTIONS

The following basin-wide management actions are recommended for implementation as part of the MVGB SNMP to achieve the basin management goals and objectives.

- Active groundwater management and adaptation
- Identification and protection of natural recharge areas
- Management to control the migration of contaminated groundwater
- Management of saline/saltwater intrusion
- Control of wastewater salinity/nutrient loads
- Stormwater capture and recharge management
- Land use regulation
- Groundwater monitoring programs
- Public outreach and cooperation with other entities on water resource-related issues

Each of these management actions consists of one or more existing or planned project or program to be implemented by the City or cooperating entity as part of the SNMP implementation plan. Existing management actions in the MVGB include the following:

- Groundwater Management and Adaptation
    - Groundwater management ordinance
    - Water Quality Mitigation Plan (WQMP)
    - Well construction/destruction permits
    - Recycled water non-potable reuse regulations, guidelines and permits
    - Total Maximum Daily Loads (TMDLs)
- Saline Water Intrusion Management
    - Groundwater management ordinance
- Protect/Enhance Groundwater Recharge

    - Land development approvals
    - Stormwater runoff retention ordinance
- Contaminated Groundwater Migration Control
    - Regulatory coordination
- Stormwater Capture/Runoff Management
    - LID and stormwater BMPs
    - Stormwater runoff retention ordinance
    - MS4 NPDES permits
    - Stormwater Management Plans (SWMPs)
- Public Outreach
    - Cooperation and coordination with water-related entities
    - Southern California Salinity Coalition
    - WateReuse Association and WateReuse Research Foundation
- Land Use Regulation
    - Land development approvals
    - Landscape water conservation requirements

Since these management actions are projects/programs that have already been put into place, they are considered part of the baseline conditions. Planned management actions include the following:

- Protect/Enhance Groundwater Recharge
    - Mapping of basin recharge areas
- Saline Water Intrusion Management
    - Recycled water injection (CCWTF)
- Groundwater Monitoring
    - Groundwater elevation and water quality monitoring program
    - SNMP monitoring program
    - Memorandum of Understanding (MOU) monitoring program
- Wastewater Salinity/Nutrient Control
    - Regenerative salt-based water softeners ordinance
    - CCWTF construction and operation
- Public Outreach
    - MVGB GWMP and SNMP

As these actions are new actions, potential impacts associated with the implementation of each are evaluated in Chapter 6 of this document.

Each management action is described in more detail below. Table 4-1 summarizes these actions and identifies their present status.

4.1.1 Active Groundwater Management and Adaptation

At present, there are no production wells operating in the Malibu Valley Groundwater Basin. With implementation of the CCWTF Project, an injection well field will be constructed and operated, requiring the development of a groundwater management ordinance to manage future groundwater use to protect the operational integrity of the injection wells, protect public health, and to reduce the potential for seawater intrusion into the groundwater basin. This ordinance, Malibu City Ordinance No. 35, was developed and passed in January of 2015 to establish prohibition and consultation zones for well

construction and use, and when combined with the City's Local Coastal Program (LCP) and land use planning authorities, allows the City to actively manage the groundwater basin and adapt to changing conditions. The City continues to coordinate with the Los Angeles County Department of Public Health in the issuance of well construction permits, and continues to implement all regulations, guidelines and permits governing the reuse of disinfected treated effluent in the basin. These actions further aid the City in groundwater basin management. Additionally, the City continues to implement its current requirement that projects requiring a Coastal Development Permit and falling into one of eight pre-defined categories prepare a Water Quality Management Plan to show how treatment control BMPs and/or structural BMPs will be used to minimize or prevent the discharge of polluted runoff after construction. Finally, the City will continue to work cooperative within the groundwater basin to aid in meeting the TMDLs that have been issued for Malibu Creek and Lagoon as these waters are directly connected to the shallow alluvium of the Malibu Valley Groundwater Basin.

4.1.2 Identification and Protection of Natural Recharge Areas

Groundwater in the Malibu Valley Groundwater Basin is replenished through runoff from upland areas, subsurface wastewater dispersal, precipitation infiltration, Malibu Creek/Lagoon, and infiltration from excess irrigation. More efficient irrigation practices will result in a reduction of the amount of applied water and subsequently reduce the amount of deep percolation. This creates the need to identify areas of natural recharge and develop plans for protection. Actions could include:

- Consideration of parcel location and soil types relative to the groundwater basin prior to issuing a building permit on undevelopedlands.
- Limitations on the amount of impervious service in new development and/or requirements to retain and recharge stormwater runoffonsite.
- Programs to educate the public and planning entities about the importance of protecting recharge areas.

To implement these actions, recharge areas need to be identified. GIS-based maps of natural areas can be used to inform planning entities of the importance of these areas in order to make the proper protection recommendations.

4.1.3 Control of Contaminated Groundwater Migration

The City's Environmental Sustainability Department continues to coordinate with other local, state and federal regulatory agencies to protect water resources and manage the migration of contaminated groundwater within the groundwater basin.

4.1.4 Saline Water/Saltwater Intrusion Management

Key to managing saltwater intrusion into the Malibu Valley Groundwater Basin is limiting the potential for overdraft conditions to occur. This can best be achieved by both managing groundwater extractions and by promoting basin recharge. While one means for sustaining and enhancing recharge in a groundwater basin is through the use of artificial recharge as a means to supplement natural recharge, shallow groundwater levels in the Malibu Valley Groundwater Basin limit, for the most part, the viability of large-scale artificial recharge projects. However, should the groundwater basin be used as a potable water supply in the future, this concept may need to be considered. Possible project concepts may include the conjunctive use of surface water and groundwater, or the potential for stormwater capture and recharge. In the interim, the City can best prevent overdraft/saltwater intrusion by managing groundwater extractions and promoting the use of onsite stormwater runoff retention and percolation. Additionally, as part of the CCWTF project, unused recycled water will be injected into the Malibu Valley Groundwater

Basin at locations along Malibu Road, approximately 400 feet north of the Pacific Ocean. This injection will result in the formation of a partial injection barrier, which will help to limit saltwater intrusion into the groundwater basin.

As part of the CCWTF permitting requirements, the City of Malibu developed and passed Ordinance No. 35 to manage the location and extraction from new wells in the groundwater basin. As described above, the City's new groundwater management ordinance, combined with the City's land use planning policies and development ordinances and regulations and its role as the lead agency for implementation of the LCP (including issuance of Coastal Development Permits), promotes a comprehensive approach to managing basin recharge (including protection of recharge areas), groundwater basin quality and the interactions between the groundwater basin and the adjacent Malibu Creek and Lagoon. The authority to issue well construction or destruction permits will, however, continue to involve the LADPH Drinking Water Program.

The City's program for managing stormwater runoff is described below in Section 4.1.6.

4.1.5 Management of Salt and Nutrient Loads from Recycled Water

Implementation of the CCWTF will result in the use and injection of disinfected recycled water in the Malibu Valley Groundwater Basin. As one source of salt and nutrient loading to the basin, management of salt and nutrient contributions via wastewater to the treatment plant will be necessary to ensure that the treatment system is not overloaded and the discharges of these types of constituent to the basin are managed to the most practical extent possible.

The CCWTF has been designed to nitrify/denitrify the wastewater loads it will receive. This will aid in minimizing nutrient concentrations in the resultant recycled water. The processes do not, however, treat for salts and therefore salt loads to the system must be managed externally. To achieve this, the City will be enacting an ordinance banning the use of salt-based regenerative water softeners within the groundwater basin. This common method for controlling salt loads should aid in minimizing the transfer of those salts to the groundwater basin.

While use of recycled water produced by the CCWTF project will introduce nutrient loading to the MVGB, this use will offset nutrient loading from OWDSs already occurring and will reduce the overall future loads to the groundwater basin.

4.1.6 Stormwater Capture and Recharge

Stormwater capture and recharge encompasses both the capture and percolation of stormwater runoff, but also limiting the pollutants that can be carried by such runoff. Primary to this is the City's compliance with the MS4 permits issued by the LARWQCB. The Municipal Storm Water Permitting Program implemented by the State Water Resources Control Board (SWRCB) regulates storm water discharges from municipal separate storm sewer systems (MS4s) to protect surface water and groundwater quality. The permits were issued in two phases, with Phase I covering National Pollutant Discharge Elimination System General Permit (NPDES) storm water permits for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 people) municipalities, and Phase II covering smaller municipalities (population less than 100,000), including non-traditional Small MS4s (such as military bases, public campuses, prison and hospital complexes). The City of Malibu falls into the Phase II permitting process, and compliance with this program aids in both stormwater management and groundwater basin protection.

The City also continues to implement programs and regulations that promote stormwater capture and recharge. The City promotes green architecture (including LID techniques) through its Green Building Standards Code and requires all new projects retain onsite the Storm Water Quality Design Volume (SWQDv) defined as the greater of the 85th percentile, 24-hour storm event or the 0.75", 24-hour storm event. Additionally, the City requires that all projects needing a Coastal Development Permit include a Stormwater Management Plan (SWMP) to mitigate the effect of development on stormwater after construction and to maximize, to the extent practicable, the percentage of permeable surfaces and the retention of dry-weather runoff on the site.

4.1.7 Land Use Regulation

Groundwater in the Malibu Valley Groundwater Basin is affected by overlying land use and interconnections with Malibu Creek and Lagoon on the east and the Pacific Ocean to the south. To maintain groundwater quality within the basin, areas of poor water quality in the basin should be mapped using GIS and this information used to develop strategies to control the migration and movement of poor quality water into and within the basin. Additionally, future land use should be considered carefully by the City's Planning Department before issuing building permits to minimize the potential for groundwater quality impacts resulting from these new land uses (i.e. limiting the use of plantings that require large amounts of supplemental nutrients). Finally, the City will continue to implement Ordinance No. 343 that requires homeowners to maintain water-efficient landscapes.

4.1.8 Groundwater Monitoring

Groundwater elevation and quality monitoring is currently occurring in the Malibu Valley Groundwater Basin, and will be consolidated and formalized, to some extent, following the implementation of the CCWTF Project. Local agencies and individual permit holders will continue to monitor groundwater levels and quality as required by their permits and should provide these data to the City for consolidation into a single database for analysis. Significant changes in groundwater elevations and/or quality should be reported and investigated as needed, allowing the appropriate subsequent actions to be undertaken as appropriate.

As part of its compliance with CCWTF-related permits, the City has begun implementing a groundwater and surface water monitoring program to evaluate potential impacts to the basin resulting from injection of unused recycled water. Additionally, the City has developed two supplemental monitoring programs, tiering off the one required by the CCWTF permits, to meet the monitoring objectives of the SNMP for the Malibu Valley Groundwater Basin, and to evaluate groundwater improvements as a result of CCWTF implementation as required by its Memorandum of Understanding (MOU) with the LARWQCB. These monitoring programs are described in the MVGBSNMP.

4.1.9 Public Outreach

The City has currently been implementing public outreach efforts as part of its CCWTF project implementation and SNMP development. The City will continue to use forums such as these project-related stakeholder meetings to supplement its general outreach programs relative to groundwater management. Additionally, there are several, publically available websites that provide excellent information on groundwater management, salinity control, and recycled water use. These websites can be used to assist in promoting public outreach and understanding.

Additionally, local and regional agencies will continue to work together to coordinate outreach to residents in the Malibu Valley Groundwater Basin to promote education regarding groundwater management issues, water resource quality protection, and to coordinate, as needed, on the implementation of groundwater basin management activities.

Table 4-1: Summary of Management Actions

Category	Description	Existing/Planned	Description
Groundwater Management and Adaptation	Groundwater Management Ordinance	Existing	Manage groundwater extractions from existing wells and installation and extraction from new wells
	Water Quality Mitigation Plan (WQMP)	Existing	For projects that require a Coastal Development Permit and fall into one of 8 pre-defined categories, a WQMP must be prepared to show how treatment control BMPs and/or structural BMPs will be used to minimize or prevent the discharge of polluted runoff after construction.
	Well construction/destruction permits	Existing	Los Angeles County Department of Public Health issues permits for groundwater construction and destruction
	Recycled water non-potable reuse regulations, guidelines and permits	Existing	Implement regulations, guidelines and permits as part of the CCWTF recycled water delivery system will help to mitigate future recycled-water related loadings to the groundwater basin.
	Total Maximum Daily Loads (TMDLs)	Existing	As a result of surface water-groundwater interactions between Malibu Creek/Lagoon and the MVGB, aid in meeting TMDLs for Malibu Creek/Lagoon will aid in protecting groundwater quality
Protect/Enhance Groundwater Recharge	Land development approvals	Existing	Manage development to protect key basin recharge areas
	Mapping of basin recharge areas	Planned	Recharge zones for the groundwater basin will be mapped and used in consideration of land use approvals
	Stormwater runoff retention ordinance	Existing	New projects are to retain onsite the Storm Water Quality Design Volume (SWQDv) defined as the greater of the 85th percentile, 24-hour storm event or the 0.75", 24-hour storm event.
Contaminated Groundwater Migration Control	Regulatory coordination	Existing	The City's Environmental Sustainability Department coordinates with other local, state and federal regulatory agencies to protect water resources and manage the migration of contaminated groundwater
Saline Water Intrusion Management	Recycled water injection as part of CCWTF	Planned	Injection will establish a partial recharge barrier against future saline water intrusion
	Groundwater Management Ordinance	Existing	Manage groundwater extractions from existing wells and installation and extraction from new wells

Category	Description	Existing/Planned	Description
Groundwater Monitoring	Groundwater elevation and water quality monitoring program	Planned	Groundwater monitoring will be required as part of the WRR/WDR for the CCWTF
	SNMP monitoring program	Planned	A supplemental monitoring program will be implemented, tiering off the WDR monitoring program, to provide necessary information for SNMP implementation
	MOU monitoring program	Planned	A supplemental monitoring program will be implemented, tiering off the WDR monitoring program, to provide necessary information for evaluating the impacts of CCWTF implementation on the shallow alluvium per MOU requirements
Wastewater Salinity/Nutrient Control	Regenerative salt-based water softeners ordinance	Planned	Control loading of salts in wastewater to reduce salts in recycled water
	CCWTF construction and operation	Planned	Wastewater collection and nitrogen treatment
Stormwater Capture/Runoff Management	LID and stormwater BMPs	Existing	City promotes green architecture (including LID techniques) through its Green Building Standards Code and implementation of State General Permits
	Stormwater runoff retention ordinance	Existing	New projects are to retain onsite the Storm Water Quality Design Volume (SWQDv) defined as the greater of the 85th percentile, 24-hour storm event or the 0.75", 24-hour storm event.
	MS4 NPDES permits issued by LARWQCB	Existing	
	Stormwater Management Plans (SWMP)	Existing	All projects which require a Coastal Development Permit must include a SWMP to mitigate the effect of development on stormwater after construction and must maximize, to the extent practicable, the percentage of permeable surfaces and the retention of dry-weather runoff on the site

Category	Description	Existing/Planned	Description
Public Outreach	MVGB GWMP and SNMP	Planned	City is presently preparing a SNMP and GWMP for the MVGB
	Cooperation and coordination between water-related entities	Ongoing	The City currently coordinates with multiple entities in the groundwater basin on water resource-related issues, including, but not limited to, the LARWQCB, National Park Service, Resource Conservation District of the Santa Monica Mountains, California State Coastal Conservancy, Las Virgenes Municipal Water District, Malibu Coastal Land Conservancy
	Southern California Salinity Coalition (www.socalsalinity.org)	Existing	
	WateReuse Association (www.watereuse.org) and WateReuse Research Foundation	Existing	
Land Use Regulation	Land development approvals	Existing	Manage development to protect key basin recharge areas
	Landscape water conservation requirements	Existing	M.W.C. Section 9.22, City Ordinance No. 343 requires homeowners to maintain water-efficient landscapes

4.2 Proposed Major Recycled Water Projects

Only one major recycled water project is proposed for the MVGB. The City of Malibu is proposing to construct the Civic Center Wastewater Treatment Facility project to meet the requirements of SWRCB Order Resolution No. R4-2009-007 entitled *Amendment to the Water Quality Control Plan for the Coastal Watersheds of Ventura and Los Angeles Counties to Prohibit On-Site Wastewater Disposal Systems in the Malibu Civic Center Area* which requires the cessation of discharges to onsite wastewater disposal systems (OWDSs or septic systems) within the defined Prohibition Area and prohibits the construction of new OWDSs, and to meet the terms of the Memorandum of Understanding (MOU) between the Los Angeles Regional Water Quality Control Board (LARWQCB) and the City of Malibu (City) to eliminate the City's reliance on OWDSs in the Civic Center Area. The defined area (Prohibition Zone) overlies the Malibu Valley Groundwater Basin, and implementation of the CCWTF project will result in the development of a centralized wastewater treatment facility that would collect, treat, reuse, and/or dispose of the City's projected wastewater flow from the Prohibition Zone as described in the LARWQCB's MOU with the City dated August 25, 2011. The cessation of OWDS use in the MVGB will result in the removal of nutrient and bacterial loading to the shallow alluvial aquifer of the basin, which is contributing to impacts on Malibu Creek and Lagoon. Therefore, implementation of the CCWTF project will, in turn, assist in meeting the recently issued TMDLs for Malibu Creek and Lagoon.

The CCWTF project would be constructed in three phases and consists of four main elements: 1) wastewater treatment facility; 2) pump stations; 3) wastewater collection and recycled water distribution system pipelines; and 4) percolation ponds and groundwater injection wells. The new centralized wastewater treatment facility would treat wastewater flows collected from properties in the Civic Center area of the City of Malibu that will no longer be served by OWDSs, as required by SWRCB order, and would recycle the treated effluent and supply disinfected recycled water meeting Title 22 standards for unrestricted reuse to meet non-potable demands. Recycled water would be distributed back into the Prohibition Zone (overlying the MVGB) for use in landscape irrigation and other permitted nonpotable uses; any unused recycled water would be injected and/or percolated into the Malibu Valley Groundwater Basin. Figure 4-1 shows the extent of the CCWTF project atbuild-out.

Once constructed, the CCWTF project will provide recycled water to all potential users overlying the MVGB. As such, the CCWTF constitutes the only potential recycled water project in the basin.

Figure 4-1: Proposed Civic Center Wastewater Treatment Facility Project at Buildout

5 PROGRAM ALTERNATIVES

In accordance with CEQA requirements, two program alternatives, as described below in Section 5.1, were developed by the LARWQCB and MVGB stakeholders based on the primary objectives of the SNMP and Recycled Water Policy. Alternative 2, as discussed further in Section 5.2, was selected as the recommended program alternative that is most likely to be implemented. As an alternative to the Recommended Program Alternative, Alternative 1 is a reasonable option that could feasibly avoid or substantially lessen some of the identified environmental effects of the Recommended Alternative while still attaining most of the basic objectives of the SNMP and Recycled Water Policy (CCR, Title 14, Section 15126.6); however, under this alternative, the City would remain in violation of the SWRCB's order prohibiting the use of OWDSs in the MVGB.

Per CEQA, the SED does not need to consider every conceivable alternative to the Recommended Program Alternative and is not required to consider alternatives which are infeasible. Rather, a "rule of reason" governs the selection and consideration of alternatives, requiring only those alternatives necessary to permit a reasoned choice and that will foster informed decision-making and meaningful public participation (CCR, Title 14, Section 15126.6).

Potential environmental impacts associated with implementation of Alternative 2 are discussed in Section 6. Potential environmental impacts associated with Alternative 1 are reviewed in Section 7.

5.1 DESCRIPTION OF PROGRAM ALTERNATIVES

The following subsections describe the Recommended Program Alternative (Alternative 2), as well as one alternative (Alternative 1) to the Recommended Program Alternative. Alternative 2 was developed in response to the Los Angeles Regional Water Quality Control Board (LARWQCB) adopting Resolution R4-2009-007, prohibiting new OWDS and OWDS discharges from existing systems in the Malibu Civic Center Area, and was based on the management actions and proposed major recycled water project described in Section 4. Alternative 1 is the "No Future Projects" alternative and was developed to allow decision-makers to compare the impacts of approving the Recommended Program Alternative with the impacts of not approving the Recommended Program Alternative.

5.1.1 Alternative 1: No Future Projects

Description of Alternative 1: The MVGB stakeholders will not carry out any of the planned management actions or proposed major recycled water project (CCWTF project) as identified in Section 4. This program alternative is essentially continuation of existing management actions or baseline conditions. According to CEQA Guidelines (CCR, Title 14, Section 15126.6(e)), discussion of the No Future Projects alternative must include a description of existing conditions and reasonably foreseeable future conditions that would exist if the Recommended Program Alternative was not approved. However, the No Future Projects alternative is contrary to the Recycled Water Policy, which requires development of an SNMP that must include management actions that will manage salt and/or nutrient loading in the basins on a sustainable basis. Additionally, one of the main purposes of the Recycled Water Policy is to increase the use of recycled water from municipal wastewater sources in accordance with State and Federal water quality laws (SWRCB, 2009a). Therefore, failure to develop and carry out proposed management actions and recycled water projects is not in compliance with the Recycled Water Policy.

Alternative 1 does not meet the objectives of the Recycled Water Policy or the MVGB SNMP and, under this alternative, the City remains in violation of LARWQCB Resolution R4-2009-007; thus, this alternative is not feasible.

5.1.2 Alternative 2: Management Actions and Recycled Water

This alternative includes the following components:

- **All the management actions contained in the MVGB SNMP** - As required by the Recycled Water Policy, the management actions contained in the SNMP developed by the MVGB stakeholders to manage salt and nutrient loading to the groundwater basin on a sustainable basis. For a further description of all the management actions, refer to Section 4.1 and Table 4-1.

- **Recycled water use for irrigation in the MVGB** – Implementation of the one major recycled water project in the basin, the City of Malibu's CCWTF project, will result in the production of disinfected recycled water meeting Title 22 requirements for unrestricted reuse. As a result of this project, recycled water use for non-potable reuse (NPR) applications (i.e. irrigation and toilet flushing) is expected to begin in the MVGB through the SNMP future planning period and will replace the use of imported water currently being used for irrigation. For the purposes of the SNMP, irrigation is the primary consideration since it can contribute to salt and/or nutrient loading to the groundwater basins. As described in the *Final Environmental Impact Report, Malibu Civic Center Wastewater Treatment Facility Project* (RMC and ICF, November 2014), the CCWTF project is expected to produce 507,000 gpd (approximately 568 AFY) of Title 22 recycled water, of which the maximum estimated reuse for irrigation will be 125,000 gpd (approximately 140 AFY) on an average annual basis. Any unreused recycled water would be injected into the MVGB via injection wells. For a further description of this proposed project, refer to Chapter 3, Project Description of the *Final Environmental Impact Report, Malibu Civic Center Wastewater Treatment Facility Project* (Appendix C*)*.

- **Recycled water quality limits at the water quality objectives for TDS and nitrate as set forth in the LARWQCB's *Basin Plan*** – As evaluated in the *Final Environmental Impact Report, Malibu Civic Center Wastewater Treatment Facility Project*, groundwater quality changes resulting from implementation of the proposed recycled water project and use of recycled water for irrigation in the MVGB will result in the development of assimilative capacity in the groundwater basin for TDS, and will reduce nutrient loading to the MVGB that is currently being contributed by the use of OWDSs. Additionally, the SNMP evaluated groundwater changes from the long-term use of recycled water for irrigation in the groundwater basin and found that groundwater concentrations of TDS will decrease with time, creating assimilative capacity in the groundwater basin, and that while concentrations of nitrate in groundwater may increase, concentrations will not exceed water quality objectives as set forth in the *Basin Plan* and therefore will not impact the beneficial uses of the groundwaterbasin.

The proposed major recycled water project was developed by the City of Malibu to meet the requirements imposed by LARWQCB Resolution R4-2009-007. As such, the project will produce recycled water which will reduce reliance on imported potable water supplies, meet the goals of the Recycled Water Policy (see Section 2.1), and support the Governor's recent drought proclamations (see Section 3.2), while still protecting groundwater quality and preserving beneficial uses. As part of the SNMP, the MVGB stakeholders, in close consultation with the LARWQCB, modeled the impacts on groundwater quality from the implementation of this proposed recycled water project. Modeling results showed that the potential impacts from CCWTF implementation, implementing the usage of recycled water for irrigation and the

injection of unused recycled water for saltwater intrusion control, and the use of recycled water at the water quality objectives for salts and nutrients did not impair the groundwater beneficial uses. Thus, groundwater quality will either continue to improve in the basins and/or average salt and/or nutrient concentrations will not exceed or threaten to exceed their respective WQOs in the future.

Alternative 2 meets the objectives of the Recycled Water Policy and the MVGB SNMP and fulfills the requirements of LARWQCB Resolution R4-2009-007 and is therefore, reasonable and feasible.

5.2 Recommended Program Alternative

As discussed in Section 5.1.1, Alternative 1 was eliminated for consideration because it did not include planned management actions that were developed by the MVGB stakeholders to manage salts and/or nutrients in the groundwater basin on a sustainable basis. Since this does not meet the objectives of the Recycled Water Policy or MVGB SNMP, Alternative 1 is not considered reasonable or feasible.

Alternative 2 includes the management actions and the one proposed major recycled water project for the groundwater basin that were developed by the MVGB stakeholders (refer to Section 4) to manage salt and/or nutrient loading on a sustainable basis and/or reduce dependency on imported potable water supplies by introducing the use of recycledwater.

Under Alternative 2, implementation of the City of Malibu's CCWTF project involves the development of a basin-wide wastewater collection and treatment system that will result in the production of disinfected recycled water that meets Title 22 requirements for unrestricted reuse. Distribution and use of this new recycled water source for non-potable purposes such as irrigation and toilet flushing will replace imported water currently being used for these purposes. As the water quality of the replacement recycled water is different than that of the imported water currently being uses, a mixing model was developed and used as part of the SNMP development process to show that there will be no changes to salt and/or nutrient loading or concentrations in groundwater as a result of the project's implementation that could impact the beneficial use of groundwater as set forth in the LARWQCB's *Basin Plan*. Additionally, implementation of the CCWTF project under Alternative 2 meets the requirements of LARWQCB Resolution R4-2009-007 requiring the cessation of discharges from OWDSs in the identified Prohibition Zone, which overlies the MVGB. As a result, for purposes of this SED, Alternative 2 was selected as the most likely program alternative to be implemented (i.e. Recommended Program Alternative) because it is the most environmentally advantageous program alternative with respect to both surface water and groundwater quality and meets the regulatory order issued. The selection of Alternative 2 as the Recommended Program Alternative also is supported by the *Final Environmental Impact Report, Malibu Civic Center Wastewater Treatment Facility Project* (RMC and ICF, November 2014), which identifies CCWTF project as the proposed project to be implemented.

Section 6 presents the results of the program-level CEQA analysis of Alternative 2; the identified potential environmental impacts associated with the implementation of Alternative 2 were assessed relative to existing baseline environmental conditions. Section 7 presents the results of the relative comparison of the potential environmental impacts associated with Alternative 1 with respect to Alternative2.

5.3 PROGRAM-LEVEL ENVIRONMENTAL ANALYSIS

A program-level environmental analysis of the program alternatives described in Section 5.1 was conducted and results are presented in this SED. Given the level of detail available at this time for these program alternatives, this SED identifies broad environmental impacts and mitigation approaches at a program level. Project-level environmental analyses have been conducted by the responsible party (City of Malibu) for the CCWTF project; this EIR has been included as Appendix C to this document. (Section 2.6 of this document further discusses the differences between a program-level and project-level environmental analysis.) As this project overlies the entire MVGB and will provide recycled water to that entire area, it is the only recycled water project that will be constructed in theMVGB.

The program-level environmental analysis presented in this SED assumes that the MVGB stakeholders (which includes the City of Malibu) will design, install, and maintain projects associated with the program alternatives following all applicable laws, regulations, ordinances, and formally adopted municipal and/or agency codes, standards, and practices.

6 ENVIRONMENTAL ANALYSIS OF THE RECOMMENDED PROGRAM ALTERNATIVE

This section presents the environmental analysis of the Recommended Program Alternative (Alternative 2), specifically the identification of potential environmental impacts and appropriate mitigation measures associated with the implementation of Alternative 2. As described in Section 5.1.2, the following three components of Alternative 2 were assessed in accordance with CEQArequirements:

- **Planned management actions contained in the MVGB SNMP and summarized in Table 4-1 and Section 4.1 of this document** - Existing management actions include projects/programs/strategies that have already been put into place and thus, are considered part of the baseline conditions. As such, direct and indirect impacts of the existing management actions (identified in Table 4-1) were only considered in the assessment of cumulative impacts by virtue of being part of the baseline conditions, as discussed further in Section 7.

- **Recycled water use for irrigation in the MVGB** – Recycled water use for non-potable reuse applications (i.e. irrigation and toilet flushing) is will begin in the MVGB as a result of CCWTF implementation and will continue through the SNMP future planning period. For the purposes of the SNMP, irrigation is the primary consideration since it can contribute to salt and nutrient loading to the groundwater basins. As described in the *Final Environmental Impact Report, Malibu Civic Center Wastewater Treatment Facility Project* (RMC and ICF, November 2014), the CCWTF project is expected to produce 507,000 gpd (approximately 568 AFY) of Title 22 recycled water, of which the maximum estimated reuse for irrigation will be 125,000 gpd (approximately 140 AFY) on an average annual basis. Any unreused recycled water would be injected into the MVGB via injection wells. For a further description of this proposed project, refer to Chapter 3, Project Description of the *Final Environmental Impact Report, Malibu Civic Center Wastewater Treatment Facility Project* (Appendix C*)*.

- **Recycled water quality limits at the water quality objectives for TDS and nitrate as set forth in the LARWQCB's *Basin Plan*** – As evaluated in the *Final Environmental Impact Report, Malibu Civic Center Wastewater Treatment Facility Project*, groundwater quality changes resulting from implementation of the proposed recycled water project and use of recycled water for irrigation in the MVGB will result in the development of assimilative capacity in the groundwater basin for TDS, and will reduce nutrient loading to the MVGB that is currently being contributed by the use of OWDSs. Additionally, the SNMP evaluated groundwater changes from the long-term use of recycled water for irrigation in the groundwater basin and found that groundwater concentrations of TDS will decrease with time, creating assimilative capacity in the groundwater basin, and that while concentrations of nitrate in groundwater may increase, concentrations will not exceed water quality objectives as set forth in the *Basin Plan* and therefore will not impact the beneficial uses of the groundwaterbasin.

Although the implementation of CCWTF project associated with Alternative 2 would require resources (materials, labor, and energy), it is not anticipated that this project will require a substantial irreversible commitment of resources. Rather, Alternative 2 promotes the use of a renewable resource, namely recycled water, and aids in meeting TMDL requirements set for Malibu Creek and Lagoon. In addition, the proposed management actions are expected to have substantial benefits to surface water and groundwater quality and preserve beneficial uses. Reuse of disinfected treated effluent from the

proposed CCWTF project will have positive social and economic effects by reducing nutrient and bacterial loading to the groundwater basin and, subsequently, to Malibu Creek and Lagoon and the near-shore coastal areas, and reducing the dependency on expensive, energy-intensive (due to pumping, distribution, and other costs), and increasingly unreliable imported water supplies.

In accordance with CCR, Title 23, Section 3777(a), a completed Environmental Checklist is presented in Section 6.2. To support the Environmental Checklist, Section 6.3 discusses the potential environmental impacts relative to the baseline conditions in the MVGB and identifies mitigation measures for potentially significant impacts, and determines that such impacts can be mitigated to less-than-significant levels.

6.1 Approach to Environmental Impact Analysis

The program-level evaluation of potential environmental impacts associated with Alternative 2 is organized and presented according to the environmental resource categories in the Environmental Checklist (see Section 6.2) and discussed in detail in Section 6.3. Potential reasonably foreseeable environmental 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. For each environmental resource identified in the Environmental Checklist, the level of significance of the impact is provided, including:

- **Potentially Significant Impact** – Substantial adverse impacts on the environment are identified that cannot be feasibly mitigated or avoided.
- **Less than Significant Impact with Mitigation Incorporated** – Substantial adverse impact(s) on the environment are identified, but could be avoided or feasibly mitigated to a less than significant level. Mitigation measures are indicated in parentheses in the Environmental Checklist and described in Section 6.3
- **Less than Significant Impact** – No substantial adverse effects on the environmental are identified.
- **No Impact** – No adverse effects on the environment are expected.

Additionally, the Environmental Checklist includes mandatory findings of significance regarding short-term, long-term, and cumulative impacts associated with the implementation of Alternative 2. This evaluation considered whether construction activities or operation of new facilities associated with Alternative 2 would cause a substantial, adverse change in any of the physical baseline conditions within the MVGB. In addition, the evaluation considered environmental effects in proportion to their severity and probability of occurrence.

Construction-related impacts could be caused by projects/programs requiring new facilities and infrastructure (including but not limited to treatment plants, pipelines, pump stations, production wells, injection wells, stormwater capture facilities) or otherwise requiring ground disturbance (such as sediment removal and vegetation removal). Operational impacts vary widely, but primarily could include direct/indirect effects to surface water and groundwater quality and levels, as well as other long-term impacts due to disturbance of lands for new facilities and use of renewable or non-renewable resources during operation of new facilities.

Measures that can mitigate (e.g., minimize, reduce, or avoid) potentially significant adverse environmental impacts have been proposed and are described in Section 6.3 and indicated in the

Environmental Checklist by their Mitigation Measure number. Mitigation could include but not be limited to the following:

- Avoiding the impact altogether by not taking certain actions or parts of an action;
- Minimizing the impact by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating or restoring the affected environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and/or
- Compensating for the impact by replacing or providing substitute resources orenvironments.

The LARWQCB recommends that appropriate compliance and mitigation measures, as discussed herein, which are readily available and generally considered to be consistent with industry standards and common practices, 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 agency, such measures can and should be adopted by these parties (CCR, Title 14, Section 15091(a)(2)). It is expected that the MVGB stakeholders will design, install, and maintain projects following all applicable laws, regulations, ordinances, and formally adopted municipal and/or agency codes, standards, and practices.

Actual environmental impacts will depend on the specific compliance strategies and projects/programs to be implemented by the project/program proponents subject to fulfilling their responsibilities under CEQA (PRC, Section 21159.2). Consistent with PRC Section 21159, this SED does not engage in speculation or conjecture, but rather considers the reasonably foreseeable environmental impacts of the foreseeable methods of compliance, the reasonably foreseeable, feasible mitigation measures, and the reasonably foreseeable alternative means of compliance, which could avoid or reduce the identified environmental impacts.

As previously mentioned, the City of Malibu released the project-level Final EIR for CCWTF project in November of 2014. The Draft EIR was made available for public review and comment prior to finalizing and certification. Alternative 2 includes CCWTF project, which was designated as the proposed project and analyzed in the EIR. The program-level assessment of environmental impacts presented herein is consistent with the impact analysis and mitigation measures presented in the CCWTF Final EIR and is attached to this SED as Appendix C.

6.2 CEQA Environmental Checklist

Table 6-1
Environmental Checklist

No.	Environmental Resources	Potentially Significant Impact	Less Than Significant Impact with Mitigation*	Less Than Significant Impact	No Impact
1.	Aesthetics. Will the proposed alternative result in:				
1A	Substantial adverse effects on a scenic vista?			X	
1B	Damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings with a state scenic highway?		X (BIO-3)		
1C	Substantially degrade the existing visual character and quality of the site and its surroundings			X	
1D	Create a substantial new source of light or glare that would adversely affect day or nighttime views in the area?			X	
2.	Air. Will the proposed alternative result in:				
2A	Conflict with or obstruct implementation of the applicable air quality plan?				X
2B	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
2C	Result in a cumulative considerable net increase in any criteria pollutant for which the region is a Nonattainment Area for an applicable federal or state air quality standard?			X	
2D	Expose sensitive receptors to substantial pollutant concentrations?			X	
2E	Create objectionable odors affecting a substantial number of people?			X	
3.	Biological Resources. Will the proposed alternative:				
3A	Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate sensitive, or special-status species in local or regional plans, policies or regulations or by CDFW or USFWS?		X (BIO-1 to BIO-7, 17)		

Table 6-1 Environmental Checklist					
No.	**Environmental Resources**	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation***	**Less Than Significant Impact**	**No Impact**
3B	Have substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by CDFW or USFWS?		X (BIO-1, 2, 4, 6, 17)		
3C	Have substantial adverse effect on federally-protected wetlands, as defined by CWA Section 404, through direct removal, filling, hydrological interruption or other means?		X (BIO-1, 2, 4, 6, 17)		
3D	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impeded the use of native wildlife nursery sites?		X (BIO-1, 2, 4,6, 7, 17)		
3E	Conflict with any local policies or ordinances protection biological resources, such as a tree preservation policy or ordinance?		X (BIO-4, -7 to -17)		
3F	Conflict with provisions of an adopted habitat conservation plan?				X
4.	Cultural Resources. Will the proposed alternative:				
4A	Demolish or materially alter in an adverse manner those physical characteristics of a historical resource that convey its historical significance and justify its inclusion in, or eligibility for, inclusion in the CRHR?				X
4B	Demolish or materially alter in an adverse manner those physical characteristics that account for Its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of Section				X

Table 6-1 Environmental Checklist					
No.	**Environmental Resources**	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation***	**Less Than Significant Impact**	**No Impact**
	5024.1(g) of the Public Resources Code, unless the Public Agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant?				
4C	Demolish or materially alter in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR, as determined by a Lead Agency for purposes of CEQA?				X
4D	Cause a Substantial Adverse Change in the significance of an archaeological resource, as defined in Section 15064.5?		X (AR-1, 2)		
4E	Disturb human remains, including those interred outside of formal cemeteries?		X (AR-1, 2)		
4F	Directly or indirectly destroy a unique paleontological resource?		X (PR-1)		
5.	Soil. Will the proposed alternative:				
5A	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving rupture of a known earthquake fault?			X	
5B	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving hazards due to ground shaking?		X (GEO-1, 2, 3)		
5C	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving hazards due to liquefaction?			X	
5D	Expose people or structures to potential substantial adverse effects, including the risk of loss,		X (GEO-4 to -7)		

Table 6-1 Environmental Checklist					
No.	**Environmental Resources**	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation***	**Less Than Significant Impact**	**No Impact**
	injury, or death, involving hazards due to landslides or slope instability?				
5E	Result in substantial soil erosion or loss of topsoil?			X	
5F	Be located on expansive soils creating substantial risk to life or property?			X	
5G	Be located on soils that are incapable of supporting septic systems				X
6	Hazards. Will the proposed alternative:				
6A	Create a significant hazard through routine transport, and use and storage or accidental release of hazardous materials?		X (HM-1 to -4)		
6B	Expose people or structures to a significant risk of loss, injury, or death due to hazards from wildland fires?			X	
6C	Interfere with an Emergency Response Plan?			X	
7.	Water. Will the proposed alternative:				
7A	Violate water quality standards or otherwise degrade water quality, including as a result of erosion or sedimentation?			X	
7B	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge?				X
7C	Substantially alter the existing drainage pattern of the site or area or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems?			X	
7D	Place housing or other structures within a 100-Year flood hazard area?			X	
7E	Expose people or structures to a significant risk of loss, injury or depth involving flooding, including				X

Table 6-1 Environmental Checklist					
No.	**Environmental Resources**	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation***	**Less Than Significant Impact**	**No Impact**
	flooding as a result of the failure of a levee or dam?				
7F	Be subject to Inundation from seiche, tsunami or mudflow?		X (HY-1)		
8.	Land Use. Will the proposed alternative:				
8A	Physically divide an established community?			X	
8B	Conflict with any applicable land Use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, Local Coastal Program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			X	
8C	Conflict with any applicable habitat conservation plan or natural community conservation plan?			X	
9.	Noise. Will the proposed alternative:				
9A	Expose persons to or generate noise levels in excess of standards established in a local General Plan or noise ordinance or applicable standards of other agencies?	X (NV-1) Due to Construction	X (NV-2) Due to Operations		
9B	Expose persons to or generate excessive groundborne vibration or groundborne noise levels?			X Due to Construction	X Due to Operations
9C	Result in a permanent increase in ambient noise levels in the project vicinity, above levels existing without the project?			X	
9D	Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity, above levels existing without the project?	X (NV-2) Due to Construction			
9E	Be located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or				X

Table 6-1 Environmental Checklist					
No.	**Environmental Resources**	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation***	**Less Than Significant Impact**	**No Impact**
	working in the project area to excessive noise levels?				
9F	Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?			X	
10.	Population. Will the proposed alternative:				
10A	Induce substantial population growth in an area, either directly or indirectly?			X	
11.	Housing. Will the proposed alternative:				
11A	Displace substantial numbers of existing housing or persons, necessitating the construction of replacement housing elsewhere?			X	
12.	Public Service. Will the proposed alternative have an effect upon, or result in, a need for new or altered governmental services in any of the following areas:				
12A	Fire protection?			X	
12B	Police protection?			X	
12C	Schools?				X
12D	Parks or other recreational facilities?				X
12E	Maintenance of public facilities, including roads?			X	
12F	Other governmental services			X	
13.	Utilities and Service Systems. Will the proposed alternative result in a need for new systems, or substantial alterations to the following utilities:				
13A	Power or natural gas?			X	
13B	Communication systems?			X	
13C	Water?			X	
13D	Sewer or septic tanks?			X	
13E	Stormwater drainage?			X	
13F	Solid waste and disposal?			X	
14.	Recreation. Will the proposed alternative result in:				
14A	Impact upon the quality or quantity of existing recreational opportunities?				X
14B	Include recreational facilities or require the construction or expansion of recreational facilities, which might have a substantial adverse physical effect on the environment?			X	

Table 6-1 Environmental Checklist					
No.	**Environmental Resources**	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation***	**Less Than Significant Impact**	**No Impact**
15.	Energy/GHG Emissions. Will the proposed alternative result in:				
15A	Use of substantial amounts of fuel or energy?			X	
15B	Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?			X	
15C	Generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
15D	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?			X	
15E	Expose property and persons to the physical effects of climate change, including but not limited to flooding, public health, wildfire risk, or other impacts resulting from climate change?			X	
16.	Transportation/Circulation. Will the proposed alternative result in:				
16A	Generation of substantial additional vehicular movement?	X (TRANS-1) Due to Construction		X Due to Operations	
16B	Effects on existing parking facilities, or demand for new parking?			X	
16C	Substantial impact upon existing transportation systems?			X	
16D	Alterations to present patterns of circulation or movement of people and/or goods?			X	
16E	Alterations to waterborne, rail or air traffic?				X
16F	Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?			X	
17.	Mandatory Findings of Significance.				
17A	Potential to Degrade: Does the project have the potential to degrade the quality of the environment, substantially reduce		X		

Table 6-1 Environmental Checklist					
No.	**Environmental Resources**	**Potentially Significant Impact**	**Less Than Significant Impact with Mitigation***	**Less Than Significant Impact**	**No Impact**
	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?				
17B	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
17C	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		
17D	Substantial Adverse: Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

Notes:

1. Mitigation Measures are indicated in parentheses and described in Section 6.3.
2. Potential impacts to agriculture and/or forestry resources and mineral resources were not addressed in this checklist as these resources do not exist in the MVGB.

6.3 RESULTS OF ENVIRONMENTAL EVALUATION

6.3.1 Aesthetics

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to impact scenic vistas and views as a result of implementation.

Resource 1A: Will the Proposed Alternative result in substantial adverse effects on a scenic vista?

Significance Determination: Less than Significant Impact.

None of the proposed project elements included in Alternative 2 would have the potential to block scenic vistas; thus, the Alternative 2 would not result in an impact on any scenic vistas.

Officially recognized scenic vistas in this setting, such as the existing portions of the Coastal Slope Trail, are located well to the north and west. Due to the intervening distances separating them (1 to 1.5 miles), those locations would offer highly impaired, indistinct views of the proposed wastewater treatment facility site. Similarly, views cannot be acquired of the wastewater treatment facility site from the informal scenic view point on Malibu Canyon Road (north from Malibu Knolls Road—approximately 0.5 miles northeast of the wastewater treatment facility site) due to intervening landforms.

Views from the Malibu Creek Trail (approximately 1.0 miles east) would also be highly impaired and indistinct due to the intervening distances separating it from the wastewater treatment facility site. During Phase 2 of the CCWTF project, pipeline construction would result in construction equipment and excavation that are visible from the Malibu Creek Trail; however, this would be a temporary visual disruption and upon completion of construction, no noticeable visual change to vistas along the trail would result. In addition, the CCWTF project includes design measures for new construction that would occur primarily at or below ground level, or when not proposed at ground level, would be designed in compliance with the LIP and the proposed LCPA/ZTA, which limits the maximum height of new structures to 28 feet, and requires siting, design, and landscape measures to minimize the facility's design appearance. It imposes lighting and color restrictions on the CCWTF project as conditions of approval, and also requires a buffer to separate areas proposed for disturbance as part of the project from the adjoining ESHA to ensure that the development is compatible with its design setting.

Resource 1B: Will the Proposed Alternative result in damage to scenic resources, including but not limited to, trees, rock outcroppings and historic buildings with a state scenic highway?

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

None of the proposed elements in Alternative 2 would have a significant effect on noteworthy scenic resources; thus, the effects of Alternative 2 on scenic resources would range from no impact to less than significant.

Scenic highways in this setting include Pacific Coast Highway and Malibu Canyon Road. Although Malibu Canyon Road adjoins the CCWTF project area on the west/northwest, views from it to the wastewater treatment facility site are essentially precluded due to the intervening landforms separating the site from the road. Pacific Coast Highway abuts the wastewater treatment facility site on the south. Direct views from Pacific Coast Highway are limited to motorists and bicyclists due to the absence of a sidewalk along the north side of the highway. The dense but non-continuous landscape buffer along the highway side of the treatment plant site would also serve

to screen out many views of the proposed development. Due to the limited visual access to the treatment plant site from Pacific Coast Highway, and LCP development standards (both existing and those in the proposed LCPA/ZTA), the potential of Alternative 2 to affect views of scenic resources is minimal. Thus, the Recommended Alternative (Alternative 2) would not result in a significant impact on scenic resource within a scenic highway.

Development of the proposed wastewater treatment facility would, however, result in the removal of vegetation on the site including five protected California walnut trees, which may be considered scenic resources. The LCP/LIP, with the amendments proposed in the LCPA/ZTA, establishes standards for protecting native trees in the City of Malibu, such as California walnut trees. The removal of these trees would be a significant visual, as well as biological resources, impact, but can be reduced to a less-than-significant level with implementation of the standards in the proposed LCPA/ZTA through the mitigation measure BIO-3.

Mitigation Measure

- **BIO-3: Focused Bat Roost Habitat Assessment.** Within six months of any site preparation, construction, or other site disturbance associated with the Proposed Alternative, a focused bat roost habitat assessment shall be conducted. The assessment shall include the Pacific Coast Highway (PCH) Bridge, Cross Creek Bridge, and any mature trees occurring within 100 feet of any element of the Proposed Alternative construction of infrastructure, and trees proposed for removal. The bat maternity season (typically April 1-August 31) shall be avoided to the greatest extent feasible. If the maternity season cannot be avoided, then a focused bat survey, utilizing current ultrasonic technology, shall be conducted by a qualified biologist acceptable to the CDFW and the City. If active maternity roosts are identified, no work will continue in those areas until such time as the City authorizes re-initiation of the work in consultation with CDFW.

Resource 1C: Will the Proposed Alternative substantially degrade the existing visual character and quality of the site and its surroundings?

Significance Determination: Less than Significant Impact.

None, the elements of the Recommended Alternative (Alternative 2) effect on scenic resources would range from no impact to less than significant.

Because conformance with the LIP is required for the granting of a coastal development permit, no significant visual impacts are anticipated as a result of the projects and programs contained in Alternative 2, and thus, no mitigation is required. The design/development standards, required by the LIP to ensure design components are built with sensitivity to the visual environment, are summarized as follows:

- Development shall be sited and designed to minimize impacts on scenic areas from scenic roads or public viewing areas. If there is no feasible building site location where development would not be visible, then the development shall be sited and designed to minimize impacts (e.g., breaking up the mass of the structure, designing structures to blend into the natural setting, restricting heights to 28 feet or less above finished grade, and incorporating landscape screening);

- Development shall be sited on the flattest portion, except where there is a location that would be more protective of visual resources, or of an ESHA;
- Fences and landscaping shall not block views of scenic areas from scenic roads, parks, beaches and other public viewing areas;
- Development in scenic areas visible from roads or viewing areas shall incorporate colors and exterior materials that are compatible with the surrounding landscape (e.g., no white/bright shades or highly reflective materials, except solar panels);
- Exterior lighting (except for traffic lights, navigational lights, and other similar safety lighting) shall be minimized, restricted to low intensity features, shielded, and concealed to the maximum feasible extent so that no light source is directly visible from public viewing areas; and
- The Pacific Coast Highway corridor shall be protected as a scenic highway and significant viewshed by requiring that bordering development include landscaping comprised primarily of native and drought tolerant plant species.

In addition, the LCPA/ZTA includes the following design requirements specific to the CCWTF project:

- The CCWTF project shall be designed to avoid impacts to protected native trees; however, where impacts cannot feasibly be avoided, impacts shall be minimized. As a condition of approval for a coastal development permit, the applicant shall be required to: 1) implement a tree protection plan approved by the City Biologist for trees that will not be removed; and 2) pay an in lieu fee for trees that are removed prior to the issuance of grading permits for the development.
- Structures and equipment associated with the CCWTF project shall be designed to minimize visual impacts using methods including, but not limited to: locating development below ground level where possible; utilizing landscape screening; and incorporating visually minimizing design measures for walls, fencing, and building and lighting orientations.

Based on visual simulations, the visual character of the existing wastewater treatment facility at the proposed CCWTF treatment plant site would benefit from new landscape vegetation and sensitively designed buildings and facilities. Accordingly, a less-than-significant impact would occur.

Resource 1D: Will the Proposed Alternative create a substantial new source of light or glare that would adversely affect day or nighttime views in the area?

Significance Determination: Less than Significant Impact.

While the need for nighttime lighting, other than security lighting, would be rare during operation of the proposed CCWTF treatment facility, motion-detector lighting is proposed at the entrance gate, and above doorways at the operations building, headworks, MBR modules, and solids storage facility. The light systems would also include manually activated pole-mounted lighting around other process areas. The entrance road would have a photo-sensor-activated bollard lighting system for safety. Lighting used only when needed for maintenance would use zero uplight LEDs, which are dark-sky compliant. In addition, other features proposed as part of the Proposed Alternative (e.g., metal fencing, tanks, and small buildings) would be painted with non-

glare-producing colors and finishes. Per the LIP, lighting would be shielded and directed to avoid glare and spillover lighting and would not exceed a 60-watt light bulb level of illumination. Thus, the Proposed Alternative would not produce significant new light or glare-related impacts.

The very limited nighttime operational activities of the CCWTF, and very limited lighting that would be associated with it, are not expected to result in significant visual impacts. Such lighting would be in conformance with City of Malibu outdoor lighting regulations and may not exceed 60 watts level of illumination. It would be directed onsite and would be shielded from adjoining properties and ESHA. Far fewer visually sensitive viewers are likely to be present at nighttime on adjoining roads. In addition, although adjacent residential uses can acquire partial views of the wastewater treatment facility site (e.g., the Maison De Ville, Vista Pacifica and Villa Toscana Condominiums), such views would offer a far lower level of detail during nighttime hours. Thus, operational activities undertaken during evening hours, and featuring highly limited lighting, are not expected to be visually obtrusive. Additionally, the proposed management actions contained in Alternative 2 will not require any lighting or create a new source of glare. Hence, visual impacts are expected to be less than significant.

6.3.2 Air Quality

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to impact air quality as a result of implementation (construction and/or operation).

Resource 2A: Will the Proposed Alternative conflict with or obstruct implementation of the applicable air quality plan?

Significance Determination: No Impact.

The Recommended Alternative (Alternative 2) is subject to SCAQMD's AQMP, which contains a comprehensive list of pollution control strategies directed at reducing emissions and achieving ambient air quality standards. A project is consistent with the AQMP if consistent with the population, housing, and employment assumptions used in the development of the AQMP. The most recent AQMP adopted by SCAQMD incorporates the Southern California Association of Governments' (SCAG) 2012–2035 Regional Transportation Plan (RTP), which projects that regional population will grow by approximately 1.5 million new households by 2035. SCAG also prepared the Regional Comprehensive Plan (RCP), which includes Land Use and Housing and Transportation chapters that form the basis for the respective portions of the AQMP. Both the RCP and AQMP are based, in part, on projections originating from county and city general plans.

The site of the proposed CCWTF wastewater treatment facility is currently developed, in part, with a small-scale, privately owned and operated wastewater treatment facility that mainly serves the Malibu Colony Plaza shopping center, located on the south side of PCH. According to the LCP, the site of the proposed wastewater treatment facility is currently zoned for Commercial Visitor-Serving 2 (CV-2) uses, but the proposed LCPA/ZTA would create the Civic Center Wastewater Treatment Facility Institutional OverlayDistrict.

Although a primary objective of the Recommended Alternative (Alternative 2) is to meet the City's obligations under its MOU with the Regional Water Quality Control Board, the development of wastewater infrastructure has the potential to facilitate future growth and development indirectly within the Prohibition Zone. Such growth would be subject to requirements established by the City's LCP, Malibu Municipal Code Zoning Ordinance, and General Plan. Given that projections from the SCAG 2012 RTP/Sustainable Communities Strategy were incorporated into

the AQMP, growth related to the Recommended Alternative has been accounted for. Additionally, all construction activities would be in compliance with AQMP regulatory measures, including a number of SCAQMD rules.

Finally, the Recommended Alternative (Alternative 2) operational emissions would fall below the SCAQMD thresholds of significance. No impact would occur with respect to AQMP implementation, and no mitigation measures are required.

Resource 2B: Will the Proposed Alternative violate any air quality standard or contribute substantially to an existing or projected air quality violation?

All activities associated with the Recommended Alternative are located within the MVGB, an area where state and federal air quality standards are occasionally exceeded. The project and actions contained in the Recommended Alternative would contribute differently to regional air pollutant emissions during short-term construction and short- and long-term operations, though all activities ultimately have less than significant impacts.

Construction

Significance Determination: Less than Significant Impact.

Construction of the CCWTF project has the potential to create air quality impacts through the use of heavy-duty construction equipment and vehicle trips generated by construction workers traveling to and from the Proposed Alternative site. In addition, fugitive dust emissions would result from work at the proposed site and installation of the wastewater conveyance and recycled water distribution systems. The CalEEMod model was used to estimate emissions related to wastewater treatment facility construction, and the Road Construction Emissions Model was used to estimate emissions related to installation of the conveyance and distribution systems, which would be generally installed within existing roadway rights-of-way. Fugitive dust emissions of PM10 and PM2.5 assume compliance with SCAQMD Rule 403, which requires that actions be taken to prevent, reduce, or mitigate man-made fugitive dust emissions (e.g., dust control and exhaust filters) and would be implemented as part of construction best management practices and in coordination with requirements set forth in the State's NPDES General Permit for Construction Activities. Estimates of construction-period daily emissions would not exceed SCAQMD regional or local significance thresholds. As such, impacts would be less than significant, and no mitigation measures are necessary.

Operations

Significance Determination: Less than Significant Impact.

Regional air pollutant emissions associated with Alternative 2 project and program operations would be generated as a result of energy consumption, which would be required for pumping, aeration, and other activities necessary for treating and transporting wastewater. In addition, energy would be used for interior lighting and minor exterior security lighting of the proposed CCWTF wastewater treatment facility. Furthermore, the on-site use of solvents may result in the release volatile organic compound (VOC) emissions, and the operation of on-road vehicles while traveling to and from the site and along the conveyance/distribution system alignments would emit pollutants. Finally, mobile-source emissions would result from employee work trips and hauling trips related to the transport and disposal of solids.

Emissions from the CCWTF wastewater treatment processes would be minimal because emissions from the influent pump station, headworks, and equalization basin would be captured and filtered through an organic media bed, which would remove volatile organic compounds. Additionally, current emissions related to the operation of existing septic tank systems (i.e., VOC off-gassing and haul trips) would no longer occur with development of the CCWTF project, so net emissions would be less than previous operations-period emissions.

Emissions related to CCWTF wastewater treatment facility and conveyance/distribution system operations at build-out, as well as vehicle trip generation rates, are based on the CCWTF project's engineer's estimate (e.g., system energy demand assumed to total approximately 3.05 million kilowatt-hours (kWh) and 221.92 British thermal units (BTUs) equivalent of natural gas annually). Estimates of operations-period daily emissions, based on the energy demand and trip generation estimates, would not exceed SCAQMD regional or local significance thresholds. As such, impacts would be less than significant, and no mitigation measures are necessary.

Resource 2C: Will the Proposed Alternative result in a cumulative considerable net increase in any criteria pollutant for which the region is a Nonattainment Area for an applicable federal or state air quality standard?

Significance Determination: Less than Significant Impact.

SCAQMD's approach for assessing cumulative impacts is based on AQMP forecasts of attainment of ambient air quality standards made in accordance with the requirements of the federal and state Clean Air Acts. The Recommended Alternative would be consistent with the AQMP, which is intended to bring the Basin into attainment for all criteria pollutants.

In addition, the estimates of construction-period and operational emissions would not exceed the applicable SCAQMD daily significance thresholds, which factor in cumulative effects and are designed to assist the region in attaining the applicable state and national ambient air quality standards. As such, cumulative impacts would be less than significant, and no mitigation measures are necessary,

Resource 2D: Will the Proposed Alternative expose sensitive receptors to substantial pollutant concentrations?

The project contained in the Recommended Alternative (the CCWTF project) would contribute to localized air pollutant emissions during construction (short term) and operations (long term). A discussion of the CCWTF project's localized potential construction- and operations-period air quality impacts is provided below.

Local Construction Impacts

Significance Determination: Less than Significant Impact.

SCAQMD has developed a set of mass emissions rate look-up tables that can be used to evaluate localized impacts that may result from construction-period emissions. If the on-site emissions from proposed construction activities are below the Localized Significance Threshold (LST) emission levels found in the LST mass rate look-up tables for the CCWTF project site's SRA, then emissions would not have the potential to cause a significant localized air quality impact.

Mass daily emissions during construction of the CCWTF project were compiled using the CalEEMod emissions inventory model. Only on-site construction emissions were considered for

comparison with the LST mass rate look-up tables (consistent with SCAQMD LST guidelines, off-site delivery/haul truck activity and employee trips are not considered localized impacts). A conservative estimate of the CCWTF's construction-period on-site mass emissions shows that local emissions would not exceed SCAQMD significance thresholds. Additionally, the implementation of construction best management practices such as dust control and requiring exhaust filters on engines would aid in additional reduction of dust and odors resulting from construction. As such, impacts would be less than significant, and no mitigation measures are necessary.

Local Operational Impacts

Significance Determination: Less than Significant Impact.

Odors, dust and other air-borne discharges are not expected as a result of operations of projects contained in the Recommended Proposed Alternative as the one project, the CCWTF project, would be fully odor-scrubbed. Therefore, within an urban setting, vehicle exhaust is the primary source of CO with the highest CO concentrations generally found close to congested intersections. For purposes of providing a conservative worst-case impact analysis, CO concentrations are typically analyzed at congested intersection locations, because if impacts are less than significant close to congested intersections, impacts will also be less than significant at more distant sensitive receptor locations.

Traffic during the operational phase of the CCWTF project would not have the potential to create local area CO impacts. Wastewater treatment facility and conveyance system operation would involve approximately 23 vehicle trips per week for all regular staffing, waste disposal, and inspection activities. Additional vehicle trips would occur on monthly, quarterly, and annual bases to provide testing, cleaning, and other maintenance services but would not result in a noticeable effect on traffic operations in the area. Given the low level of vehicle trips associated with operation, congestion and related CO concentrations are unlikely to measurably increase.

Additionally, on-site operational emissions would be below SCAQMD's localized significance thresholds. As such, localized impacts would be less than significant, and no mitigation measures are necessary.

Toxic Air Contaminants

Significance Determination: Less than Significant Impact.

The greatest potential for TAC emissions would be related to diesel particulate emissions associated with heavy equipment operation during grading activities on the proposed CCWTF wastewater treatment facility site and excavation for the conveyance and distribution systems. Construction activities associated with the CCWTF project would be sporadic, transitory, and short term in nature, while the assessment of diesel-related cancer risk from construction equipment is typically based on a 70-year exposure period. Because exposure to diesel exhaust during construction would be short-term and well below the 70-year exposure period, construction is not anticipated to result in an elevated cancer risk to exposed persons. With respect to long-term operations, no meaningful TAC emissions sources would be present, because emissions from CCWTF treatment processes would be captured and filtered through an organic media bed. Toxic emission impacts during construction and operation would not be significant, and no mitigation measures are necessary.

Resource 2E: Will the Proposed Alternative create objectionable odors affecting a substantial number of people?

Significance Determination: Less than Significant Impact.

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment facilities, food processing plants, chemical plants, composting areas, refineries, landfills, dairies, and fiberglass molding facilities. The CCWTF project contained in Alternative 2 includes construction and operation of a use identified by SCAQMD as being associated with odors. However, the wastewater treatment facility would be fully odor-scrubbed and compliance with SCAQMD Rule 402 (regarding nuisance odors) would eliminate odor-related impacts.

All potential odor-generating processes associated with the CCWTF project would be completely covered and connected to an odor control system comprised of piping/ductwork, fans, and organic media beds. The fans would create a vacuum condition at each process facility, and move foul air to and through organic media beds via underground piping and ductwork. The organic media bed would be a biological odor treatment process that establishes the proper environment for microorganisms to consume and remove odor compounds. A biological process was selected over chemical treatment to minimize the need for chemical transportation to thesite.

The CCWTF treatment plant site would have two odor control systems, including an Upper Area Odor Control System for the biological reactors and membrane tanks; and a Lower Area Odor Control System for the influent pump station, headworks, equalization basin, and solids storage tank. The UV disinfection process, recycled water storage tank and pump station will not generate wastewater odors and would not be connected to the odor control system. The Legacy Park pump station has a dedicated fan and odor bed system at the site. Odor control facilities are not planned for the Bluffs Park pump station because the station is at the end of the line and its wet well would be emptied daily; therefore, odor is not anticipated to be an issue. The collection system manholes are being designed with sealed covers to prevent any foul air from escaping the system. Odors are not anticipated from the air release valves because of the relatively small size of the vents and the limited volume of air to be vented on a daily basis. Odor-related impacts associated with operation would be less than significant, and no mitigation measures are required.

Odors resulting from the construction of the CCWTF project are not likely to affect a substantial number of people because construction activities do not typically emit offensive odors. Potential odor emitters during construction activities include asphalt paving and the use of architectural coatings and solvents. SCAQMD Rules 1108 and 1113 limit the amount of VOCs from cutback asphalt and architectural coatings and solvents. Additionally, SCAQMD Rule 402 manages the potential for nuisance odors, and compliance with this rule would minimize the potential for odors to be released during construction. Given mandatory compliance with SCAQMD rules, no construction activities or materials associated with the CCWTF project are proposed that would create a significant level of objectionable odors. As such, potential impacts during short-term construction would be less than significant and o mitigation measures are required.

6.3.3 Biological Resources

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to directly or indirectly impact biological resources as a result of implementation (construction and/or operation). Management actions contained in the Recommended Alternative, such as land use regulations, have the potential to indirectly impact biological resources in the MVGB.

Resource 3A: Will the Proposed Alternative have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate sensitive, or special-status species in local or regional plans, policies or regulations or by CDFW or USFWS?

The Recommended Alternative (Alternative 2) has the potential to impact, both directly and indirectly, special-status species. Implementation of MM BIO-1 through MM BIO-7 and MM BIO-17 would reduce these impacts to below a level of significance. Indirect impacts to the freshwater environment from injection wells are expected to be beneficial when compared to the current condition. Indirect impacts to the near-shore marine environment from injection wells associated with the CCWTF project were determined to be less than significant. No other special-status species are expected to be potentially impacted by the project or actions contained in Alternative 2. Implementation of MM BIO-5 would ensure compliance with Migratory Bird Treaty Act and Fish and Game Code.

Direct Impacts

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

No special-status plant or wildlife species or their habitats occur within the footprint of the Recommended Alternative. However, work areas are adjacent to special-status species habitat at Malibu Lagoon and Malibu Creek and if construction intrudes into these areas, disturbance or damage could occur, resulting in a significant impact. Implementation of mitigation measures (MM) BIO-1 through MM BIO-7 and MM BIO-17 would reduce potentially significant impacts to special-status species and their habitats to a less-than-significant level.

The area encompassed by the Recommended Alternative (Alternative 2) supports habitat suitable for nesting birds throughout the urban and natural landscapes. Removal of vegetation when there are nesting birds present could result in a violation of the Migratory Bird Treaty Act and/or Fish and Game Code that protects nesting birds and would be considered a significant impact. To ensure compliance with the Migratory Bird Treaty Act and Fish and Game Code, MM BIO-5 and MM BIO-7 would be implemented.

Mitigation Measure

- **BIO-1: Avoidance and Mitigation Due to Special-Status Species/Habitats.** To reduce impacts to special-status species and their habitats to a less than significant level, the following avoidance and minimization measures shall beimplemented:
    - All work areas shall be approved by the Proposed Alternative engineer in consultation with an approved biologist.
    - No new areas of disturbance for lay down areas, parking, staging, or other support areas shall be developed. Previously disturbed areas will be utilized to support these work zones.
    - Work areas shall be clearly marked in the field to prevent impacts outside of the designated work areas.

- **BIO-2: Fraction Mitigation Contingency Plan.** The drilling contractor shall prepare a Fraction Mitigation Contingency Plan for Malibu Creek crossings that would include, at a minimum, the following elements for the protection of biological resources: 1) design protocols shall require a geotechnical engineer or qualified geologist to make recommendations regarding the suitability of the formations to be bored to minimize the potential for the inadvertent release of drilling fluids into the creek; 2) definition of how such releases of drilling fluids would be detected in a timely manner; 3)

identification of steps to be implemented in the event of a drilling fluid release; and 4) a reporting protocol to ensure that all appropriate notifications are made to agencies.

- **BIO-3: Focused Bat Roost Habitat Assessment.** Within six months of any site preparation, construction, or other site disturbance associated with a recycled water project, a focused bat roost habitat assessment shall be conducted. The assessment shall include the PCH Bridge, Cross Creek Bridge, and any mature trees occurring within 100 feet of any element of the Proposed Alternative construction of infrastructure, and trees proposed for removal. The bat maternity season (typically April 1-August 31) shall be avoided to the greatest extent feasible. If the maternity season cannot be avoided, then a focused bat survey, utilizing current ultrasonic technology, shall be conducted by a qualified biologist acceptable to the CDFW and the City. If active maternity roosts are identified, no work will continue in those areas until such time as the City authorizes re-initiation of the work in consultation with CDFW.

- **BIO-4: Presence of Biological Monitor during Construction.** A biological monitor, approved by the City, shall be present for all construction activities within ESHA and activities related to auguring activities at Malibu Creek or any other jurisdictional feature, or placing piping on the PCH Bridge over Malibu Creek. Within five days prior to any work being initiated at a work site for the first time, or in the event work is stopped at a given work site for more than five days and is re-initiated, the biological monitor shall complete a preconstruction survey to ensure wildlife species unlikely to escape on their own are not present, ensure that construction is not intruding into any environmentally sensitive areas, and that no special-status biological resources are being impacted. The biological monitor shall track compliance with the EIR biological mitigation measures and any other permit conditions that may pertain to biological resources. The monitor shall keep a daily activity log and provide the daily logs to the City Biologist on a weekly basis. Any and all violations or notable events shall be reported to the City immediately.

- **BIO-5: Avoidance or Mitigation of Bird Nesting Season.** Construction activities shall avoid the nesting season for birds, generally accepted to be February 1 (January 1 for raptors) through September 15. Should avoidance be infeasible, beginning 30 days prior to construction, a qualified biologist, approved by the City, shall conduct weekly surveys for nesting birds in all work zones and a 500 foot buffer area, with the final survey being no less than five days from the start of construction If there is a delay of more than five days between when the nesting bird survey is performed and vegetation removal or other construction begins, it will be necessary to reconfirm whether any new nesting has occurred between the time the first nesting bird survey was performed and ground disturbance. Standard buffers for active nests are 300 feet for passerine species and 500 feet for raptors. If an active nest is identified, an appropriate buffer will be established, as determined by a qualified biologist, in consultation with CDFW, based on the sensitivity of the species and the nature of the construction activity. The contractor will be notified of active nests and directed to avoid any activities within the buffer zone until the nests are no longer considered to be active by the qualified biologist.

- **BIO-6: Material Mitigation.** Any work resulting in materials that could potentially be discharged into jurisdictional features will adhere to strict BMPs and the requirements set forth in regulatory agency permits/agreements to prevent potential pollutants from entering any jurisdictional feature. Applicable BMPs to be applied will be included in SWPPP and/or WQMP. At a minimum, barriers (straw bales or sedimentation fences) will be erected between the construction site or bore sites and Winter Canyon Creek, Malibu Creek or any other Water of the U.S. prior to construction or drilling, as appropriate, to prevent released material from reaching those water bodies and associated habitats.

- **BIO-7: Tree Removal Impact on Breeding Minimization.** To the extent feasible, all trees that must be removed to enable construction of facilities shall be removed outside the breeding seasons for birds and bats. The City will retain a tree removal specialist to remove all trees during times when birds and bats are not breeding. In order to further minimize impacts to potentially occurring bats, a two-step process for removal of any tree that cannot be avoided shall be implemented. This will involve removing all branches less than two inches in diameter from trees that will be removed, to create a disturbance that will encourage bats to choose another roosting site after foraging that night. The following day the tree would be completely removed.

- **BIO-17: Biological Construction Monitoring.** All construction activities that occur within 100 feet of an ESHA will be evaluated by a biologist to determine if biological monitoring of the construction activity is warranted. Biological construction monitoring would occur as needed to ensure that no direct or indirect impacts to ESHAs occur. At a minimum, a daily monitoring log would be prepared documenting construction compliance with the biological EIR mitigation measures, and any other subsequent measures that may be added.

Indirect Impacts

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

The CCWTF project contained in the Recommended Alternative (Alternative 2) contains a pipeline system that intersects potential habitat for tidewater goby, southern steelhead, and arroyo chub at two Proposed Alternative locations, Malibu Lagoon and Malibu Creek. Malibu Lagoon and Malibu Creek are also designated critical habitat for tidewater goby and southern steelhead. If during auguring operations underneath Malibu Creek fine particles associated with the boring fluid migrate to the surface, it would have the potential to smother fish and their eggs. This would be considered a potentially significant impact to tidewater goby and southern steelhead. However, implementation of MM BIO-2, MM BIO-4 and MM BIO-17 would reduce the impact to a less than significant level.

Bat roosts may occur on the PCH bridge crossing over Malibu Lagoon where a pipeline crossing could be placed. If construction on or below the bridge deck caused enough disturbances through noise, vibration, and/or motion for a maternity bat roost to be abandoned, it would be considered a potentially significant impact. In addition, bat roosts may occur on the Cross Creek bridge crossing over Malibu Creek, immediately adjacent to where work area for auguring under Malibu Creek may occur. If construction of the entry/exit bores or the auguring caused enough disturbances through noise, vibration, and/or motion for a maternity bat roost to be abandoned,

it would be considered potentially significant. Implementation of MM BIO-3 would reduce the impact to a less than significant level.

Due to the close proximity of the auguring entry and exit pits to habitat at Malibu Creek, there are indirect impacts associated with project construction, such as noise, vibration, and released materials, which would be considered potentially significant to special-status fish species, nesting birds, and other special-status biological resources. Implementation of MM BIO-4, MM BIO-6, MM BIO-7, and MM BIO-17 would reduce the impact to a less than significant level.

CCWTF Treated Wastewater Injection

The injection of treated wastewater into groundwater aquifers as part of the CCWTF project would increase the volume of naturally occurring groundwater discharge to the Malibu Lagoon and in nearshore marine habitats. Using the planned average injection rate for each phase of the CCWTF project, a groundwater flow model was used to simulate recycled water injection at the planned injection locations to confirm that all injected flows go to the ocean and to estimate the very slight increase (within natural variation) in groundwater basin outflows to Malibu Creek and Lagoon. Additionally, the quality of the additional groundwater flowing to Malibu Creek and Lagoon would be unchanged in terms of some key constituents, such as salinity, and improved for other cases, such as nutrients.

Increased groundwater flows to Malibu Creek and/or Lagoon could affect habitat conditions for sensitive aquatic species that are the focus of state and federal conservation and recovery efforts. The project contained in the Recommended Alternative is expected to result in beneficial improvements in water quality and circulation conditions in the lagoon, which would, in turn, improve habitat conditions for special status fish species occurring in the lagoon environment. Based on analyses conducted, the CCWTF project and management actions contained in the Recommended Alternative is expected to have less than significant effects on nutrient loading and salinity conditions in the groundwater interface in the nearshore marine environment. By extension, this would translate to less than significant effects on special status fish and invertebrate species in the marine component of the study area.

Freshwater Environment

Based on modeling conducted for the CCWTF, treated injection water is not expected to reach the lagoon, but it would raise hydrostatic pressure in local aquifers sufficiently to increase the discharge rate of native groundwater to the estuarine environment. In other words, the injected recycled water would create a groundwater mound that would impede the flow of groundwater from the northern end of the basin to the ocean, diverting upgradient groundwater to the east and thus increasing outflows from the groundwater basin to the western edge of Malibu Creek and/or Lagoon.

During periods of high stream flows and/or when the lagoon is open to tidal exchange ("breached") the relative contribution of groundwater to lagoon hydrology is small. However, when the lagoon is closed and stream flows in Malibu Creek are low, groundwater accounts for a substantial portion of inflow to the lagoon and any increase in groundwater inflow rates could considerably increase circulation rates relative to existing conditions. However, based on the objectives established in the Malibu Lagoon Restoration Plan, any increase in circulation in the western arms of the lagoon under closed conditions would constitute a beneficial improvement in water quality conditions by helping to moderate surface water temperatures. In addition, the

CCWTF project is expected to improve water quality by reducing the nutrient loading to the lagoon.

Improved water quality conditions in Malibu Lagoon would be expected to benefit southern steelhead and tidewater goby, ESA-listed fish species known to occur in the lagoon and Malibu Creek. The CCWTF project and management actions contained in Alternative 2 would reduce eutrophication and incrementally improve circulation in the lagoon, which would likely moderate water temperatures and limit dissolved oxygen depression. This would be expected to provide significant benefits for steelhead, as this species is sensitive to depressed dissolved oxygen levels and elevated water temperatures (Carter, 2005; Matthews and Berg, 1997). Tidewater goby are more tolerant because they are adapted to the highly variable conditions that commonly occur in small coastal estuaries, including elevated water temperatures, highly variable salinity conditions, and low dissolved oxygen levels. However, estuaries and marshes with more stable conditions are known to support increased individual growth rates, larger overall size, and larger population size than more variable habitats (USFWS, 2005). The Recommended Alternative would therefore be likely to improve conditions for tidewater goby on the basis that it would incrementally improve and stabilize estuarine circulation rates when the lagoonis closed (not breached).

Marine Environment

The CCWTF project (contained in the Recommended Alternative) would result in the discharge of treated injection water to the nearshore marine environment in combination with existing groundwater outflows, resulting in an increase in the volume of freshwater outflow affecting salinity conditions and, potentially, nutrient loading to the benthic environment. Altering groundwater outflow conditions is of potential concern because it could change habitat conditions supporting benthic settling and development of the larval life stages of sensitive species. This is particularly true given the potential presence of highly imperiled abalone species, and the importance of successful larval recruitment to the conservation of these species. However, a conservative and simplified (likely overestimated) analysis of potential marine water quality effects indicates that any water quality effects would be less than significant, specifically:

- The maximum increase in nitrate loading rates (9.2 lbs/day) would have a negligible effect on nitrate concentrations, maintaining the current conditions concentration of 6.47 mg/L under all future phases of the CCWTF project (0.01 mg/L higher than the ambient marine nitrate concentration of 6.46 mg/L)
- Increased groundwater discharge would increase the size of the mixing zone necessary to achieve a seawater dilution ratio of 1:10 by a fraction of a foot (1.65 feet to 1.91 feet, or approximately 3 inches)

Point and non-point source wastewater are also known to be sources of several contaminants of emerging concern (CECs) that are being detected in surface waters with increasing regularity (CECs include a broad range of substances found in medications and household and personal care products). The CCWTF project would inject tertiary treatment effluent into groundwater through a low-permeability zone at least 600 feet from the closest possible discharge point to nearshore marine surface waters. Available research indicates that biogeochemical filtration in soils can effectively remove the majority of CECs from groundwater (Bradley et al., 2005, 2006; Chapelle et al., 2007; Du et al., 2014), with effectiveness increasing with the amount of soil media and the duration of the filtering process. This suggests that the combination of tertiary treatment and biogeochemical processing provided by groundwater injection is likely to provide effective

removal of CECs and reduce the net loading of these substances to surface waters from the area served by the CCWTF project.

On the basis of this information, the Proposed Alternative is expected to have a less than significant effect on water quality conditions in the nearshore marine environment.

Mitigation Measure

- Implementation of **Mitigation Measures BIO-1 through BIO-7 and BIO-17** (see Resource 3A mitigation measures above).

Resource 3B: Will the Proposed Alternative have substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by CDFW or USFWS?

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

Malibu Creek and Malibu Lagoon are located along the alignment for the proposed collection and distribution system. Both have associated riparian vegetation and are also mapped as supporting sensitive natural communities: southern willow scrub, southern coastal salt marsh, southern California coastal lagoon, and southern California steelhead stream. Phase 2 of the CCWTF project (contained in the Recommended Alternative) includes installation of a pipeline on the existing bridge over the creek and lagoon at PCH as well as installation of pipeline by boring under the bridge at Cross Creek Road. Winter Canyon Creek, located in the southeast portion of the wastewater treatment facility site, includes arroyo willow scrub, a riparian plant community.

Based on current conceptual plans, the CCWTF project is not expected to result in impacts to riparian vegetation or sensitive natural communities. However, since work areas will occur immediately adjacent to riparian habitat and sensitive natural communities, implementation of MM BIO-1, MM BIO-2, MM BIO-4, MM BIO-6, and MM BIO-17 would ensure avoidance of potential direct impacts. With regard to ESHA protection, the LCP Amendment and corollary zoning text amendment would allow for a reduced ESHA buffer for the Winter Canyon Creek drainage at the wastewater treatment facility site. The LCPA/ZTA also would require that all pipelines and ancillary infrastructure associated with the wastewater treatment system be sited to avoid ESHA to the greatest extent possible and that temporary impacts to ESHAs from construction would be restored. Any permanent impacts to ESHAs would be required to be offset through payment of in lieu fees in accordance with the LIP. Calculations of impact areas to ESHAs would be required for review and approval by the City Biologist as part of the CDP application process and prior to issuance of a grading permit.

Proposed CCWTF facilities would be inspected on a regular basis and the system would operate under permits that require the development and implementation of a sewer system management plan (SSMP) that would include, among other things, an emergency response plan to address pipeline breaks and overflows. Given these factors, the potential for release of pollutants and resulting impacts to biological resources is considered less than significant.

Treated Wastewater Injection: Freshwater Environment

Groundwater mounding from groundwater injection by the CCWTF project was evaluated and determined to have little to no impact on shallow groundwater elevations at the injection sites, which would remain at or below current levels. The results also indicate that, as OWDSs are removed from operation, shallow groundwater elevations drop as a result of the transference of

recharges from the shallow alluvium to the deeper Civic Center Gravels. The riparian habitat that is present at Winter Canyon Creek would not be expected to beimpacted.

The injection of treated wastewater into groundwater aquifers would increase the volume of naturally occurring groundwater discharge to the Malibu Creek and Lagoon. By implementing the CCWTF project, the potential future impacts of additional groundwater flows to Malibu Creek and Lagoon and changes in riparian habitat, southern coastal salt marsh, and/or southern California coastal lagoon would be reduced, and thus this impact is considered less than significant. Also, the injection of treated wastewater into groundwater aquifers increasing the volume of naturally occurring groundwater discharge to the Malibu Lagoon could affect water salinity, and in turn could affect southern coastal salt marsh and/or southern California coastal lagoon conditions. However, the plant species associated with these communities are adapted to the highly variable salinity conditions that commonly occur in small coastal estuaries. Therefore, by implementing the Recommended Alternative (including the CCWTF project), the potential future impacts of additional groundwater flows to Malibu Creek and Lagoon and changes in salinity would be reduced, and thus this impact is considered not to be ofsignificance.

Mitigation Measure

- Implementation of **Mitigation Measures BIO-1, BIO-2, BIO-4, BIO-6, and BIO-17** (see Resource 3A discussed earlier).

Resource 3C: Will the Proposed Alternative have substantial adverse effect on federally-protected wetlands, as defined by CWA Section 404, through direct removal, filling, hydrological interruption or other means?

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

Jurisdictional features, including federally protected waters, do occur within the MVGB, but do not occur within the footprint of the CCWTF project. As currently proposed in Alternative 2, only street level modifications would be made on the PCH Bridge that occurs above Malibu Lagoon, a feature that would be a jurisdictional feature. In addition, work areas associated with auguring under Malibu Creek would be placed outside the jurisdictional limits for that feature. However, regulatory agency jurisdiction (ACOE, RWQCB, or CDFW) over the Creek would require that appropriate permits, or other agreements regarding the auguring process be obtained and adherence to any measures to protect wildlife contained in these permits/agreements would be required. The following measures would help to ensure that jurisdictional features are avoided during construction and that no impacts would occur: MM BIO-1, MM BIO-2, MM BIO-4, MM BIO-6, and MM BIO-17.

Mitigation Measure

- Implementation of **Mitigation Measures BIO-1, BIO-2, BIO-4, BIO-6, and BIO-17** (see Resource 3A discussed earlier).

Resource 3D: Will the Proposed Alternative interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impeded the use of native wildlife nursery sites?

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

The MVGB supports one regionally important wildlife corridor, Malibu Creek. The Recommended Alternative would not result in any direct impacts to Malibu Creek, but would cause temporary indirect impacts during CCWTF construction that could significantly impact some species that would be utilizing Malibu Creek for movement, such as southern steelhead and tidewater goby. The following measures would ensure that impacts to the function of Malibu Creek as a wildlife corridor and the species that use it are minimized during construction so that overall impacts would be less than significant: MM BIO-1, MM BIO-2, MM BIO-4, MM BIO-6, MM BIO-7 and MM BIO-17.

In the long-term, the Recommended Alternative is expected to result in beneficial impacts to water quality within Malibu Lagoon, which would benefit species such as southern steelhead and tidewater goby.

Mitigation Measure

- Implementation of **Mitigation Measures BIO-1, BIO-2, BIO-4, BIO-6, BIO-7, and BIO-17** (see Resource 3A discussed earlier).

Resource 3E: Will the Proposed Alternative conflict with any local policies or ordinances protection biological resources, such as a tree preservation policy or ordinance?

Environmentally Sensitive Habitat Areas

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

Several ESHA areas occur within the MVGB. Additionally, the new proposed driveway and adjacent biofilter to be constructed in the footprint of the existing unpaved driveway at the proposed CCWTF wastewater treatment facility site occurs within the 100 foot ESHA wetland buffer of Winter Canyon Creek. In addition, the CCWTF Phase 2 pipelines would cross through ESHA, beneath Malibu Creek and over Malibu Lagoon along the PCH Bridge. Because a portion of the proposed wastewater treatment facility overlaps the ESHA buffer and the CCWTF Phase 2 pipelines would be constructed over and under Malibu Creek ESHA, MM BIO-4 and MM BIO-17 will be implemented to minimize or avoid impacts to ESHAs.

The Recommended Alternative will be compliant with the City of Malibu General Plan Conservation (CON) Elements and LUP policies without further mitigation measures being required. In addition, the LCP Amendment and corollary zoning text amendment (LCPA/ZTA) may allow for reduced ESHA buffers if it can be demonstrated that all proposed facilities are sited within previously disturbed areas as much as feasible. For the CCWTF project, the proposed driveway is located along the existing unpaved driveway at the treatment plant site, therefore, any fuel modification that encroaches into the ESHA buffer is limited to thinning only, onsite pipelines and equipment located within 100 feet of ESHA shall be installed under pavement or within previously disturbed areas, and the area of reduced ESHA buffer is offset with ESHA enhancement elsewhere on the site on a one to one basis and incorporated into the site landscape plan subject to City Biologist approval. The LCPA/ZTA also requires that all infrastructure be sited to avoid ESHAs to the greatest extent possible and that temporary impacts to ESHAs from

construction would be restored. Any permanent impacts to ESHAs would be required to be offset through payment of in lieu fees in according with the LIP. Calculations of impact areas to ESHAs would be required for review and approval by the City Biologist as part of the CDP application process and prior to issuance of a grading permit.

Mitigation Measure

- Implementation of **Mitigation Measures BIO-4 and BIO-17** (see Resource 3A discussed earlier).

Tree Protection

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

The LCP/LIP establishes standards for protecting native trees in the City of Malibu. One such protected tree species, California black walnut, occurs on the proposed CCWTF site. Thirty-one California black walnuts were identified within or directly adjacent to the proposed CCWTF treatment plant site. Of those, 15 meet the requirements to be protected under LIP Chapter 5. Based on the current design, Phase 1 of the CCWTF project would remove two protected California walnut trees and cause temporary impacts on three protected trees, which constitutes a significant impact.

Some construction activities have the potential to affect trees that are not approved for removal. This includes activities that would compact the soils (e.g., driving and parking vehicles and equipment), digging, vegetation trimming, and operating equipment that might make contact with the trees. Construction of infrastructure has the potential to affect root zones of native trees that are along the edge of the road, and may require trimming of protected trees for construction.

Implementation of the mitigation measures MM BIO-7 through MM BIO-16 would reduce impacts on protected California black walnut trees and other native trees to less-than-significant levels. In addition, the LCPA/ZTA would require that projects in the Recommended Alternative be designed to avoid impacts to protected trees to the greatest extent possible and if impacts cannot be avoided, a tree protection plan in accordance with the LIP Section 5.3 would be required as well as payment of in lieu fees as required under LIP Section 5.5.2(b).

Mitigation Measure

- Implementation of **Mitigation Measure BIO-7** (see Resource 3A discussed earlier).
- **BIO-8: Remaining Trees Impact Mitigation.** To ensure that potential temporary impacts will not affect the health of trees that remain on-site, the following shall be implemented, as applicable:
    - Drainage shall be directed away from the root zones of all native trees.
    - Poisonous chemicals or materials that could be deleterious to tree health shall be discarded in approved storage containers.
    - Tree trunks shall not be used as winch supports, anchors, or signposts or for any other function.
    - The storage of vehicles, building materials, refuse, or excavated soil materials shall not occur within the protected zones of trees.
    - The use, access, or parking of heavy vehicles or equipment (e.g., backhoes, tractors) shall not occur within the protected zones of trees.

- **BIO-9: Native Tree Survey Before Construction.** Prior to construction, a qualified biologist or arborist shall conduct a focused native tree survey in construction areas to determine if there are any other protected native trees within the direct impact area. If it is apparent that any protected native trees not previously identified would require removal, these trees shall be reported to the City, and all mitigation measures in the tree protection plan shall be implemented for these trees pursuant to LIP Chapter 5.

- **BIO-10: Native Tree Protective Fencing Before Construction.** Prior to construction, highly visible protective fencing (i.e., Environmentally Sensitive Area fencing) shall be installed around any project's limits of disturbance to avoid direct impacts on native trees adjacent to the construction area. In addition, exclusionary fencing shall be installed around the outermost limits of the tree protection zones (i.e., five feet outside of the drip line or 15 feet from the trunk, whichever is greater) of the native trees within or adjacent to the construction area that will not be removed but have the potential to be disturbed during construction or grading activities. All tree fencing shall be supervised by a qualified biologist or arborist prior to the commencement of any clearing, grading, or other construction activities. Fencing shall be maintained in place for the duration of all construction. No construction, grading, staging, or material storage shall be allowed within the fenced exclusion areas or within the protected zones of any native trees. This includes around any native trees (if present) potentially occurring within the collection and distribution systemareas.

- **BIO-11: Encroachment into Native Tree Protection Zone.** Any construction-related activity (e.g., pruning) that encroaches into the tree protection zone of a native tree must be done using only hand-held tools. Prior to encroachment into the tree protection zone, the tree must be inspected by a qualified arborist to ensure that the activity will not result in loss or worsen the health of the tree. This includes around any native trees (if present) potentially occurring within the collection and distribution system areas.

- **BIO-12: Monitoring of Native Trees.** A qualified arborist or biologist shall monitor native trees that are within or adjacent to the construction area. The monitor shall be present during installation of exclusionary fencing and shall ensure that construction personnel or equipment do not encroach into sensitive areas. The monitor shall also oversee work with hand tools in the protected zone and check the exclusionary fencing weekly to ensure that the fencing remains intact during all construction phases of the CCWTF project. This includes directing construction personnel when the fencing needs repair or replacement.

- **BIO-13: Reduce Impact on Native Trees During Design.** Project design shall avoid removal of and temporary impacts on native trees to the maximum extent feasible. If the proposed design does not prevent tree removal or encroachment, then the fewest or least significant impacts shall be selected. Adverse impacts on native trees shall be fully mitigated, with priority given to on-site mitigation. The coastal development permit shall include the mitigation requirements as conditions of approval.

- **BIO-14: Replacement of Impacted Walnut Trees.** Any California walnut trees that meet the LIP Chapter 5 protection criteria and that are proposed for removal or where

development encroaches into the protected zone of the native tree, resulting in loss or worsened health of the tree, shall be replaced on-site (if suitable habitat is present) at a ratio of 10:1. Seedlings (less than 1 year old) shall be planted in an area of the proposed wastewater treatment facility site where suitable habitat is present.

- **BIO-15: Protected Tree Unavoidable Impact Mitigation.** If impacts to protected native trees cannot be feasibly avoided, mitigation shall be provided by one of the following methods pursuant to LIP Sections 5.3 and 5.5, and the Native Tree Protection Plan:
    - Off-Site Mitigation: Planting at least 10 replacement trees for every tree removed (can occur off-site in suitable habitat that is restricted from development or in public parklands). Seedlings (less than 1 year old) shall be planted in an area where there is suitable habitat;OR
    - In-Lieu Fee Program: For unavoidable impacts resulting in the loss of native trees and native tree habitat, payment of an in-lieu fee shall be provided. The fee shall be paid into the Native Tree Impact Mitigation Fund, which is administered by the Santa Monica Mountains Conservancy. The fee shall be based on the type, size, and age of the trees removed.

- **BIO-16: Monitoring of Encroached Protected Trees.** Pursuant to LIP Chapter 5, Section 5.6.1, each affected protected tree that is not removed, but encroached upon shall be monitored annually for a period of not less than 10 years. An annual monitoring report shall be submitted for review by the City for each of the 10 years. The monitoring report shall include measurements of the tree (i.e., DBH, approximate height, and canopy width) and the relative health of each of the replacement trees, including notes regarding any damage from fire, disease, insects, or other vectors that affect health. If at any time the health of a replacement tree begins to decline beyond recovery, that tree shall be replaced in kind with an equal healthy replacement. Monitoring reports shall be provided to the City annually and at the conclusion of the 10-year monitoring period to document the success or failure of the mitigation. If performance standards are not met by the end of 10 years, the monitoring period shall be extended until the standards are met. If any of the trees is lost or its health or vigor is worsened as a result of the proposed infrastructure construction or operation, the impact shall be mitigated through replanting at a ratio of 10:1 on-site, off-site mitigation, or an in-lieu fee (as described above).

Los Angeles County Oak Tree Ordinance

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

A portion of Phase 2 of the CCWTF project occurs within the county's jurisdiction and beyond the limit of the City of Malibu where native oaks are legally protected from being damaged or removed during the course of a project if they have a single-trunk diameter at breast height (DBH) of 8 inches or more, if any two trunks have a combined DBH of 12 inches or more, or if it is considered heritage. Although pipelines would be constructed underground and along existing roadway easements, native oaks that occur adjacent to the roadways may have roots extending under or branches extending over the roadways. To ensure compliance with the Los Angeles County Oak Tree Ordinance, any oak trees that require root or branch trimming will be subject to MM BIO-8, BIO-9, BIO-11, and BIO-12, which would result in a less than significantimpact.

Mitigation Measure

- Implementation of **Mitigation Measures BIO-8, BIO-9, BIO-11, and BIO-12** (see Resource 3E mitigations measuresabove).

Resource 3F: Will the Proposed Alternative conflict with provisions of an adopted habitat conservation plan?

Significance Determination: No Impact.

There are no habitat conservation plans, natural community conservation plans, or other local, regional or state habitat conservation plans that cover the MVGB. Thus, there would be no impacts to or conflicts with an adopted habitat conservation plan.

6.3.4 Cultural Resources

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to impact cultural resources as a result of implementation (construction).

Resource 4A: Will the Proposed Alternative demolish or materially alter in an adverse manner those physical characteristics of a historical resource that convey its historical significance and justify its inclusion in, or eligibility for, inclusion in the CRHR?

Significance Determination: No Impact.

There is only one project in the Recommended Alternative, the CCTWF project. The majority of the CCWTF components, including the wastewater treatment facility, would be constructed in street rights-of-way, easements, or disturbed areas. No historical resource listed or determined eligible for listing in the CRHR would be demolished or materially altered in an adverse manner such that the physical characteristics of the historical resource would no longer convey its historical significance. The management actions contained in the Recommended Alternative will not result in any impacts to cultural resources.

Resource 4B: Will the Proposed Alternative demolish or materially alter in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the Public Agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturallysignificant?

Significance Determination: No Impact.

The Recommended Alternative only contains one project (the CCWTF project), all of whose components would be constructed in street rights-of-way, easements, or disturbed areas. No historical resource listed in a local register of historical resources or identified during a historical resource survey would be demolished or materially altered in an adverse manner such that the physical characteristics of the historic resource would no longer convey its historical significance. No impacts would occur.

Resource 4C: Will the Proposed Alternative demolish or materially alter in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR, as determined by a Lead Agency for purposes of CEQA?

Significance Determination: No Impact.

The Recommended Alternative only contains one project (the CCWTF project), all of whose components would be constructed in street rights-of-way, easements, or disturbed areas. No historical resource determined eligible for listing in the CRHR by a lead agency for the purposes of CEQA would be demolished or materially altered in an adverse manner such that the physical characteristics of the historical resource would no longer convey its historical significance. There would no impacts on historical resources.

Resource 4D: Will the Proposed Alternative cause a Substantial Adverse Change in the significance of an archaeological resource, as defined in Section 15064.5?

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

Two previously recorded prehistoric archaeological resources are located fewer than 300 feet west of the proposed location of the CCWTF wastewater treatment facility. Although the field survey indicated that the ground surface in this area is highly disturbed, the proximity to previously recorded archaeological sites and the location in the Malibu coastal area suggest a high probability of encountering subsurface archaeological resources in this area. Additionally, the Humaliwo site is adjacent to a portion of the proposed pipeline route along PCH and a fourth archaeological site identified adjacent to the pipeline location on Malibu Road, just west of the intersection with Webb Way. The area of the Humaliwo site along PCH is particularly sensitive because of the known presence of human remains in the past, although these remains may have been removed.

CCWTF project construction in areas near known sites would have a moderate to high level of potential for encountering and inadvertently demolishing or materially altering in an adverse manner physical characteristics of archaeological resources that may be eligible for inclusion in the CRHR and NRHP. This would be a potentially significant impact under CEQA and an adverse effect under Section 106 of the NHPA.

Management actions contained in the Recommended Alternative will not have any adverse impacts on archaeological resources in the MVGB.

Finally, there is a potential to encounter unknown subsurface resources in areas wherever excavations are required. Inadvertent destruction or alteration of significant resources would be a significant impact under CEQA and an adverse effect under Section 106 of the NHPA. Implementation of mitigation measures MM AR-1 and AR-2 would reduce potentially significant impacts of construction to archeological resources.

Mitigation Measure

- **AR-1: Cultural Resource Monitoring of Impacted Areas.** A certified archaeologist and a culturally-affiliated Native American, with knowledge of cultural resources, shall monitor all initial related ground-disturbing activities, as well as excavations or other impacts, in the areas of proposed construction. Monitoring should take place on both sides of Malibu Lagoon, specifically from Cross Creek Road east to a point on the other side of the Lagoon opposite the western end of the parking lot at Malibu State Beach,

west beyond the Adamson House. In those areas that are not monitored by a certified archaeologist and a culturally-affiliated Native American, if buried cultural resources are uncovered 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 resource. Provisions for the disposition of recovered prehistoric artifacts shall be made in consultation with culturally affiliated Native Americans. The Native American Heritage Commission shall be the final arbiter should disagreement arise over the disposition of the recovered artifacts. In the event of an accidental discovery of human remains in a location other than a dedicated cemetery, the steps and procedures specified in Health and Safety Code Section 7050.5, State CEQA Guidelines Section 15064.5(e), and PRC Section 5097.98 shall be implemented.

- **AR-2: Cultural Resource Monitoring of Pipeline Location.** Pre-excavation probings and/or borings shall be conducted along the location of proposed construction, as needed, to determine the extent of a potential archaeological resources identified during past projects adjacent to the proposed construction. A certified archaeologist and a culturally-affiliated Native American, with knowledge of cultural resources, shall monitor the pre-construction investigations and determine if archaeologically significant artifacts are located and have the potential to be impacted by construction. Should archaeologically significant artifacts be discovered, all work in the construction areas shall be halted until a treatment plan can be developed and implemented, following which construction would continue.

Resource 4E: Will the Proposed Alternative disturb human remains, including those interred outside of formal cemeteries?

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

Prehistoric burials have been found around the MVGB, including adjacent to the proposed CCWTF project site. Some of these areas, such as the Humaliwo site along PCH, is particularly sensitive because of the known presence of human remains in the past, although these remains may have been removed.

Construction near known sites would have a moderate to high level of potential for encountering and inadvertently disturbing human remains, including those interred outside of formal cemeteries. This would be a significant impact under CEQA and an adverse effect under Section 106 of the NHPA. All excavations would be required to comply with the LCP and the City Municipal Code governing excavation activities. Implementation of mitigation measures AR-1 and AR-2 would reduce potentially significant impacts of construction to human remains.

Mitigation Measure

- Implementation of **Mitigation Measures AR-1 and AR-2** (see Resource 4D discussed earlier).

Resource 4F: Will the Proposed Alternative directly or indirectly destroy a unique paleontological resource?

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

Construction has a moderate to high level of potential for encountering and inadvertently damaging or destroying paleontological resources. The paleontological sensitivity of the CCWTF project, including the older Quaternary alluvium and, in places, marine sediments, is considered high. Excavations in the undisturbed older Quaternary deposits that are present throughout the MVGB, or the marine sediments in the mountains, have a good chance of uncovering significant vertebrate fossils. The destruction of any unique fossil resources would be a significant impact under CEQA. The following measure would be implemented to ensure that potential impacts on unique paleontological resources that may be present would be reduced to a less-than-significant level.

Mitigation Measure

- **PR-1: Paleontologic Monitoring of Impacted Areas.** A qualified paleontologic monitor shall be required in any areas where excavation will occur below a depth of 5 feet. The qualified paleontologic monitor shall retain the option to reduce monitoring if, in his or her professional opinion, the sediments being monitored were previously disturbed. Monitoring may also be reduced if the potentially fossiliferous units, previously described, are not present or, if present, are determined by qualified paleontologic personnel to have a low potential for containing fossil resources. The monitor shall be equipped to salvage fossils and samples of sediments as they are unearthed to avoid construction delays and be empowered to halt or divert equipment temporarily to allow removal of abundant or large specimens. Recovered specimens shall be prepared to a point of identification and permanent preservation, including washing to recover small invertebrates and vertebrates. Specimens shall be curated into a professional, accredited museum repository with permanent retrievable storage. A report of findings, with an appended itemized inventory of specimens, shall be prepared and submitted to the City. The report and inventory, when submitted to the City, will signify completion of the program to mitigate impacts on paleontological resources.

6.3.5 Geology andSoils

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to directly or indirectly impact local geology and/or soils as a result of implementation (construction and/or operation). Management actions contained in the Recommended Alternative, such as land use regulations, have the potential to indirectly impact geology and/or soils overlying in the MVGB.

Resource 5A: Will the Proposed Alternative expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving rupture of a known earthquake fault?

Significance Determination: Less than Significant Impact.

There are no earthquake faults delineated on Alquist-Priolo Fault Zone maps within the MVGB. Because the area is not traversed by a known active fault and is not within 200 feet of an active fault trace, surface fault rupture is not considered to be a significant hazard for the Proposed Alternative area (Geosyntec Consultants, 2014). In addition, in accordance with International

Building Code (2009), none of the proposed facilities are considered critical structures; that is, structures whose damage or failure would pose a risk to human life, health and welfare (Geosyntec Consultants, 2014).

Induced seismic activity (induced seismicity) is a phenomenon generally associated with injection of liquids at considerable depth below the ground surface (i.e., injection at depths reaching thousands of feet) and at high injection pressures (i.e. pressures in excess of several thousand pounds per square inch). The treated effluent injection wells associated with the CCWTF project are relative shallow (up to approximately 150 feet below ground surface) and injection pressures are considered to be very low (approximately 5 psi). Therefore, the possibility of significant induced seismicity due to the proposed injection under the CCWTF project is considered to be unlikely (Geosyntec Consultants, 2014).

The Recommended Alternative therefore would not expose people or structures to the risk of loss, injury or death as a result of surface fault rupture hazards. There would be no impact.

Resource 5B: Will the Proposed Alternative expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving hazards due to ground shaking?

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

The MVGB is located within a seismically active area of Southern California and may experience severe shaking in the future from the Malibu Coast fault and other nearby faults. Hazards associated with strong ground shaking are potentially significant, but can be mitigated to less than significant, with implementation of mitigation measures GEO-1, GEO-2, and GEO-3.

Mitigation Measure

- **GEO-1: Seismic Hazard Compliance.** All infrastructure shall be designed to comply with City and state seismic hazard requirements.
- **GEO-2: Seismic Safety in Design.** All projects shall conform to all applicable provisions and guidelines set forth by the Uniform Building Code, which sets forth regulations concerning proper design for seismic safety.
- **GEO-3: Seismic Event Training.** Operating protocols for all projects shall include facility personnel training regarding appropriate response actions following a seismic event. These protocols will include required notification procedures, plant operation modifications, and inspection requirements.

Resource 5C: Will the Proposed Alternative expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving hazards due to liquefaction?

Significance Determination: Less than Significant Impact.

Geotechnical studies have identified potentially liquefiable soils in the MVGB, including within the CCWTF treatment facility site. However, for the one project contained in the recommended Alternative, based on site inspections, the potential for soil liquefaction-induced lateral spreading at CCWTF treatment plant site is considered low as the potentially liquefiable soil layer is not continuous and liquefiable lenses are relative deep, approximately 10 to 25 feet below the ground surface. Furthermore, depth to groundwater at the location of the proposed percolation ponds

at the CCWTF treatment plant site is 30 feet or more, and percolation at this location would not elevate these water levels such that they would increase the potential for liquefaction.

The CCWTF Phase 1 pump station locations at Legacy Park and Bluffs Park are not characterized as subject to liquefaction. However, the CCWTF wastewater treatment facility site, possibly Phase 2 and 3 pump stations, and a large portion of proposed pipelines are within areas identified as subject to liquefaction. The possibility for facilities to be affected by liquefaction, resulting in damage to facilities, potentially including ruptured pipelines, would be potentially significant. However, design and construction of the CCWTF project would incorporate appropriate engineering practices to ensure seismic stability, as required by the California Building Standards Code. Proper design and construction using standard techniques such as permanent dewatering, ground modification, and reinforced mat or deep-pile foundations would be employed to ensure that facilities would not be damaged by liquefaction. Therefore, Proposed Alternative-related impacts would be less than significant.

In addition to the risk posed by existing conditions, the CCWTF injection wells have the potential to increase liquefaction potential by increasing groundwater elevations in the injection area. The potential for injection to increase liquefaction was evaluated by Geosyntec Consultants (2014), and it was determined that increases in groundwater levels as a result of injection would have a negligible effect on liquefaction potential. This impact would be less than significant.

Resource 5D: Will the Proposed Alternative expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving hazards due to landslides or slope instability?

Construction

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

Some areas of slope instability have been identified within the Civic Center area. While it is naturally buttressed and the area is likely stable, individual projects would require additional measures to confirm stability. In addition, there is the potential for localized sloughing of near-vertical slopes and overhangs, as well as toppling of soil columns during construction, which are potentially significant impacts. Surface runoff, groundwater seepage, and earthquake shaking were also considered to be contributors to the weakening and toppling of temporary slopes and reducing soil shear strength.

In general, the geologic and seismic hazards described above could be reduced by employing sound best management practices (BMPs), such as protecting graded or disturbed areas, including slopes, in accordance with the approved erosion control plan. To minimize hazards to construction workers from unstable temporary slopes and ensure that no significant adverse impacts would occur, mitigation measures GEO-4, GEO-5, and GEO-6 would be implemented by the construction contractor(s). This would reduce impacts to less than significant.

Mitigation Measure

- **GEO-4: Earthwork and Grading Requirements.** All earthwork and grading shall meet the requirements of State of California building and structural codes and be performed in accordance with recommendations in project-specific geotechnical investigations conducted and in Erosion Control Plans required as part of the LARWQCB NPDES permit.

- **GEO-5: Compliance with General Plan Guidelines.** All projects shall comply with guidelines in the City's General Plan, LUP, and LIP Chapter 17, such as those related to fill buttressing, the use of retaining walls, drainage control, and the provision of debris basins and setbacks where appropriate.

- **GEO-6: Site Preparation and Earthwork Recommendation Compliance.** Site preparation and earthwork shall be done in accordance with recommendations in project-specific geotechnical reports. This would include performing earthwork in accordance with Section 300 of the most recent approved edition of the *Standard Specifications for Public Works Construction* and *Regional Supplemental Amendments*.

Operations

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

The Recommended Alternative contains one project that has the potential for unstable soils. The majority of the CCWTF project area has a low risk of slope instability. Neither the wastewater treatment facility site nor any of the pump stations sites is located in an area with a substantial risk of landslides. Cut and fill slopes within the wastewater treatment facility site would be designed for an inclination of 2 Horizontal:1 Vertical, which would provide a safety factor against slope instability (Geosyntec Consultants, 2014). Recycled water irrigation on sloped lands will be applied at agronomic rates in accordance with project permit requirements, reducing the potential for slope instability resulting from over-irrigation.

It is possible that projects, or portions of projects may be located in areas of slope instability, including areas that are potentially subject to earthquake-induced landslides. Potential damage due to slope instability would be a significant impact, which can be mitigated to a less-than-significant level with implementation of mitigation measure GEO-7.

Mitigation Measure

- **GEO-7: Geotechnical Investigation and Reporting.** Geotechnical investigations shall be conducted to develop slope stabilization criteria for any project that would be constructed in areas that are prone to landslides. In addition, steep slopes shall be evaluated to determine whether detailed geotechnical investigations should be performed. The geotechnical reports shall be submitted to the City for review and approval of the slope stabilization measures included in the project design. Slope stabilization measures may include soil improvements, buttressing of the slopes, or compaction of trench backfill. In addition, erosion control measures, such as water bars, trench dams, and revegetation, shall be identified in required Erosion Control, Landscaping, and Revegetation Plan.

Resource 5E: Will the Proposed Alternative result in substantial soil erosion or loss of topsoil?

Construction

Significance Determination: Less than Significant Impact.

The one project in the Recommended Alternative (the CCWTF project) would occur primarily within paved or otherwise previously disturbed areas with little or no vegetation. Pipelines for all phases of the CCWTF project would be constructed within existing roadways, and construction is

not expected to result in loss of topsoil. However, at the wastewater treatment facility and pump station sites, any existing on-site groundcover and vegetation within the CCWTF area disturbed limits would be removed during construction. With the loss of this vegetation, surface soils would be exposed to wind and surface water flow, which raises the potential for erosion. Further, as part of construction at the CCWTF wastewater treatment facility site, grading and excavation activities would result in the removal of approximately 7,771 cubic yards (cy) of material at full buildout (5,377 cy for Phase 1 and an additional 2,394 cy during Phases 2 and 3). In addition, the CCWTF project would import approximately 3,000 cy of material. Grading and excavation would expose soils on the wastewater treatment facility site to wind and water erosion. Moreover, trenching along the roadways to install pipelines for the proposed collection and distribution system would lead to substantial soil exposure. These impacts would be potentially significant depending upon the amount and extent of erosion.

Any project involving grading of an area greater than 1 acre is required to apply for a NPDES permit from the Los Angeles Regional Water Quality Control Board (LARWQCB). This permit requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). A BMP program, as required by LARWQCB, would be prepared and implemented as part of the SWPPP. Since some construction activities would not be restricted to the dry months of the year, erosion control BMPs would be implemented to ensure that sediment is confined to the construction area and not transported off-site. Erosion control is required by the City, County, and LARWQCB through the City's General Plan, LCP and LIP policies, management actions, and regulatory permits. Implementation of the City's stormwater pollution-control BMPs; compliance with adopted regulations and policies, including the City's procedural and date regulations (i.e., no grading during the rainy season from November 1st to March 31st); and use of appropriate sloping, shoring, and bracing techniques, as well as covering or stabilizing topsoil stockpiles, would reduce soil erosion impacts to a less-than-significant level. Implementation of the City's BMP requirements, as detailed in LIP Chapter 17, will result in no additional mitigation requirements beyond compliance with these measures.

Operations

Significance Determination: Less than Significant Impact.

Project operation and maintenance are not expected to result in increased erosion. Upon completion of construction, underground utilities would be buried and surfaces repaved/restored to their existing conditions. For the one project contained in the Recommended Alternative, the CCWTF wastewater treatment facility and pump station sites would be paved and revegetated and mitigation measures as required by the LCP would be incorporated to minimize any unavoidable impacts, so that ongoing erosion would not occur. Vegetated areas would be maintained and irrigated as needed to ensure that vegetation remains established. Operation is thus not expected to increase erosion, and this impact would be less than significant.

Resource 5F: Will the Proposed Alternative be located on expansive soils creating substantial risk to life or property?

Significance Determination: Less than Significant Impact.

Expansive soils do exist in the MVGB. However, the Recommended Alternative only contains one project (the CCWTF project), and according to the geotechnical investigations conducted in the proposed project area (Geosyntec Consultants, 2014), the wastewater treatment facility site, pump station sites, injection well sites and areas where pipelines would be constructed under

roadways have only low to moderate potential to contain expansive soils. Recommendations in the geotechnical report are being incorporated into the design of facilities to reduce any expansion potential. Therefore, impacts from the CCWTF project would be less than significant. The proposed management actions contained in the Recommended Alternative will not result in any construction located on expansive soils.

Resource 5G: Will the Proposed Alternative be located on soils that are incapable of supporting septic systems?

Significance Determination: No Impact.

Because the one project contained in the Recommended Alternative would eliminate existing Onsite Wastewater Disposal Systems (OWDSs) and construct a new public sewer system, this impact is not applicable. There would be no impacts associated with soils that cannot support septic systems.

6.3.6 Hazards and Hazardous Materials

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to directly or indirectly result in impacts associated with hazards and/or hazardous materials as a result of implementation (construction and/or operation). Management actions contained in the Recommended Alternative, such as land use regulations, have the potential to indirectly impact hazards in the MVGB.

Resource 6A: Will the Proposed Alternative create a significant hazard through routine transport, and use and storage or accidental release of hazardous materials?

Construction

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

Construction of projects often involves the use of materials that are generally regarded as hazardous, such as gasoline, diesel fuel, hydraulic fluids, paint, and other similar materials. The risks to the community associated with the routine transport, use, and storage of these materials during construction are anticipated to be relatively small. With appropriate handling and disposal practices, there is relatively little potential for an accidental release of hazardous materials during construction, and the likelihood is small that workers and the public, including nearby schools, would be exposed to health hazards. Storage and handling of materials during construction would employ Best Management Practices (BMPs) and would be subject to provisions of the Storm Water Pollution Prevention Plan. BMPs would include provisions for safely refueling equipment, and spill response and containment procedures. Therefore, the potential impacts due to routine transport, use, or disposal of hazardous materials during construction would be less than significant. Nonetheless, the contractor would be required to implement Mitigation Measures HM-1 and HM-2 to ensure any impacts would remain less than significant.

Construction can also result in the exposure of construction workers, nearby sensitive receptors (such as students) and residents within a one-quarter mile to potentially contaminated soils due to other historic releases of hazardous materials to soil or groundwater, a potentially significant impact. The MVGB includes a number of dry cleaners, gas stations and other facilities (both present and in the past) with underground storage tanks where activities including solvent use and leaking tanks could have residual effects on soil and groundwater. Mitigation Measure HM-3 would ensure appropriate handling of any hazardous soils or groundwater encountered during construction, reducing impacts to a less-than-significant level.

Mitigation Measure

- **HM-1: Environmental Training Program.** An environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and proper best management practices implementation, to all field personnel associated with construction activities. The training program shall emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of potentially hazardous substances) and shall include a review of all site-specific plans. A Hazardous Substance Control and Emergency Response Plan shall be prepared by the contractor. This plan shall be submitted to the City along with the grading permit application for each structure or with the encroachment permit application for the construction of pipelines. The plan shall prescribe hazardous-materials handling procedures for reducing the potential for a spill during construction and shall include an emergency response program to ensure quick and safe cleanup of accidental spills. Furthermore, the plan shall identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, shall be permitted. These directions and requirements shall also be reiterated in the Storm Water Pollution Prevention Plan (SWPPP).

- **HM-2: Spill Containment and Management.** Oil-absorbent material, tarps, and storage drums shall be used to contain and control any minor releases in construction areas. Emergency spill supplies and equipment shall be kept adjacent to all areas of work and in staging areas, and shall be clearly marked. Detailed information for responding to accidental spills and for handling any resulting hazardous materials shall be provided in the Hazardous Substances Control and Emergency Response Plan.

- **HM-3: Soil Contamination Mitigation.** During excavation and grading for construction, the contractor shall observe exposed soil for visual evidence of contamination. If visual contamination indicators are observed during excavation or grading activities, all work shall stop and an investigation shall be designed and performed to verify the presence and extent of contamination at the site. A qualified and approved environmental consultant shall perform the review and investigation. Results shall be reviewed and approved by LACFD or the California Department of Toxic Substances Control (DTSC) prior to construction. The investigation shall include collecting samples for laboratory analysis and quantifying contaminant levels within the proposed excavation and surface disturbance areas. Subsurface investigation shall determine appropriate worker protection and hazardous material handling and disposal procedures appropriate for the subject site.

Operations

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

The Recommended Alternative contains one project, the CCWTF project. Operation of CCWTF pipelines and pump stations would not require storage and regular use of hazardous materials. The proposed CCWTF wastewater treatment facility, however, would use sodium hypochlorite and alum (aluminum sulfate) as part of the treatment process, both of which are classified hazardous substances. Sodium hypochlorite is the active ingredient in bleach; it is also used to chlorinate pools. Sodium hypochlorite would be stored in 230-gallon totes (square reusable

industrial containers, approximately four feet on each side, designed for the transport and storage of bulk liquid and granulate substances), and alum would be stored in a tank with a capacity of up to 5,000 gallons. Small amounts of fuels and other similar materials could also be used and stored on site. Access to chemicals would be controlled to ensure safety, and appropriate secondary containment for treatment chemicals would be provided as required by the Los Angeles County Fire Department. Accordingly, reasonably foreseeable upset and accident conditions are not expected to result in a significant hazard to the public (including the two schools within ¼ mile of the treatment facility site) or the environment. However, to ensure the potential hazards would remain less than significant and operation of the CCWTF facility would not subject the public (including sensitive receptors such as the nearby schools) to undue risks due to exposure of hazardous materials, Mitigation Measure HM-4, which would require preparation and implementation of a Hazardous Materials Business Plan, would be implemented. This measure would ensure proper handling and storage of hazardous materials at the proposed wastewater treatment facility.

The CCWTF treatment process would also use sodium bicarbonate, citric acid and a carbon compound called MicroC™, but these materials are not considered to be hazardous substances (California Occupational Safety and Health Regulations (CAL/OSHA) Chapter 3.2, Subchapter 1. Regulations of the Director of Industrial Relations, Article 5. Hazardous Substances Information and Training, Section 339). These chemicals are standard for use in modern wastewater treatment and will be handled by experienced plant operations staff. Mishandling by unauthorized persons is not expected given that the treatment plant site will be fenced, with access gates operable only by plant staff. Furthermore, the storage of these chemicals will be in closed containers within areas that are further secured by fence and building enclosures.

Mitigation Measure

- **HM-4: Hazardous Materials Business Plan.** For CCWTF operations, the City shall prepare a Hazardous Materials Business Plan for the wastewater treatment facility that would address handling and storage of all hazardous chemicals that would be used during the treatment process. The plan shall address containment, site layouts, and emergency response and notification procedures for a spill or release.

Resource 6B: Will the Proposed Alternative expose people or structures to a significant risk of loss, injury, or death due to hazards from wildland fires?

Significance Determination: Less than Significant Impact.

The City is located within Fire Zone 4. All project construction and operation in the MVGB would be in compliance with the goals, policies, and implementation measures of the City's General Plan Safety Element; LCP; LACFD; Department of Public Works, Building and Safety Division; Fire Zone 4; and Very High Fire Hazard Severity Zone requirements. Examples of protective building construction measures include Fuel Modification Zones (areas with drought-tolerant, low-fuel-volume plants); 26 foot-wide LACFD-compliant access driveway development with specific building materials, such as fire-retardant roofing; and the installation of sprinkler systems. All projects would be required to comply with all applicable measures and regulations and be designed to ensure public safety, even in the event of a fire. For the one project contained in the Recommended Alternative, even if a fire were to affect the CCWTF project site, it would not be expected to cause a sewage spill as the pipelines that move the wastewater to and around the

plant site are located below grade. Therefore, no additional mitigation measures are proposed. Impacts would be less than significant and no mitigation is necessary.

Resource 6C: Will the Proposed Alternative interfere with an Emergency Response Plan?

Significance Determination: Less than Significant Impact.

Construction of projects in the MVGB could block access to nearby roadways for emergency vehicles. As part of projects, such as the CCWTF project (contained in the Recommended Alternative), a Traffic Control Plan, which would contain strategies for maintaining emergency access during construction, would be developed and implemented. Specifically, police, fire, and other emergency service providers, as well as facility owners and administrators of surrounding sensitive land uses, would be notified of the timing, location, and duration of the construction activities and the location of detours and lane closures. Implementation of the Traffic Control Plan would ensure that potential emergency vehicle access impacts during construction would be minimized and would be less than significant. Once construction is completed, operation of projects would be designed so as to not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, the impacts on emergency response plans and emergency vehicle access would be less thansignificant.

6.3.7 Hydrology and Water Quality

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to directly or indirectly impact hydrology and/or water quality as a result of implementation (construction and/or operation). Management actions contained in the Recommended Alternative, such as land use regulations, have the potential to indirectly impact the hydrology and/or water quality in the MVGB.

Resource 7A: Will the Proposed Alternative violate water quality standards or otherwise degrade water quality, including as a result of erosion orsedimentation?

Construction

Significance Determination: Less than Significant Impact.

During the construction, excavation, grading and well drilling activities would result in exposure of soil to runoff, potentially causing entrainment of sediment in the runoff. Soil stockpiles and excavation within street rights-of-way would be exposed to runoff and, if not managed properly, the runoff could cause increased sedimentation in sewers outside of the construction alignment. The accumulation of sediment could result in blockage of flows, potentially resulting in increased localized ponding or flooding.

The potential for chemical releases is present at most construction sites. Once released, substances such as fuels, oils, paints, and solvents could be transported to nearby surface waterways (including Winter Canyon Creek and the adjoining wetland area at the wastewater treatment facility site) and/or groundwater in stormwater runoff, wash water, and dust control water, potentially reducing the quality of the receiving waters. Also, if dewatering of excavations is necessary, the discharges from dewatering could affect surface water quality. However, potential impacts of dewatering would be addressed by treating water as needed before discharging to the storm drain system.

The City or its contractor would obtain coverage under the NPDES General Permit for Construction Activities, which would cover both runoff from the construction site and disposal of groundwater from dewatering as an authorized non-stormwater discharge. The preparation and

implementation of a project-specific Storm Water Pollution Prevention Plan would ensure that impacts to storm water quality are less-than-significant. The City of Malibu would require the contractor to prepare and submit a SWPPP, along with a Notice of Intent to comply with the General Construction Permit, before starting construction. These are standard conditions of approval for coastal development permits.

The SWPPP would include a description of Best Management Practices to be applied to minimize the discharge of pollutants during construction. These BMPs would apply to all construction activities, including well drilling and construction of the wastewater treatment facility, pump stations and pipelines. Construction-period BMPs would include, but are not limited to the following:

- Identifying all storm drains and creeks along the project alignment and adjacent to any construction sites, and ensuring that all workers are aware of their locations to prevent pollutants from entering them.
- Protecting all storm drain and catch basin inlets.
- Developing an erosion control and sediment control plan for wind and rain.
- Developing spill response and containment procedures, and immediately cleaning up and disposing of any leaks or spills. Any leaking vehicles and heavy equipment will be repaired immediately or removed from the site. One or more spill containment kits will be placed on site, and personnel trained in proper use and disposal methods. Use of dry cleanup methods whenever possible.
- Refueling vehicles and heavy equipment in a designated site located at least 500 feet from creeks and drainage swales.
- Washing concrete trucks, paint, equipment, or similar activities only in areas where polluted water and materials can be contained for subsequent removal from the site. Wash water will not be discharged to the storm drains, street, drainage ditches, creeks, or wetlands. Areas designated for washing functions will be at least 100 feet from any storm drain, water body, or sensitive biological resources. The location(s) of the washout area(s) will be clearly noted at the construction site with signs; the applicant will designate a washout area, acceptable to Building and Safety and Planning Department staff. The washout areas will be shown on the construction and/or grading and building plans and will be in place and maintained throughout construction.
- Storing construction equipment in a defined area at least 100 feet from any wetlands or water bodies.
- Separating any polluted runoff from clean site runoff through use of berms or ditches to divert surface runoff around the construction site.
- Covering exposed stockpiles of soil or other erosive material during the rainy season.
- Placing trashcans liberally around project site and maintain properly.
- Constructing roadwork pavement, concrete, and asphalt and apply seal coat during dry weather only.
- Covering storm drains and manholes in the construction area when paving or applying seal coat, slurry, fog seal, or other coatings.
- Inspecting active construction areas regularly to ensure that BMPs are intact.
- Conducting daily cleaning of active construction areas as needed.
- Educating employees and subcontractors about BMPs through periodic tailgate meetings.

- Regularly maintaining all BMPs at project site.

Implementation of the SWPPP, and its associated BMPs, would begin with the commencement of construction and continue through the completion of construction and would reduce any impacts to less than significant.

Operations

Significance Determination: Less than Significant Impact.

Operational activities associated with the Recommended Alternative include the ongoing operation of the CCWTF wastewater treatment facility, pump stations, and pipelines, and use of recycled water for landscape irrigation, with remaining water dispersed through percolation or groundwater injection.

Operation and Maintenance of CCWTF Treatment Plant, Collection Pipeline and Pump Stations

Operation and maintenance of the CCWTF wastewater treatment plant and pump stations would not be expected to result in water quality impacts. Per the City's 2012 MS4 Permit, stormwater BMPs would be incorporated into building and grading plans. All of the stormwater runoff within the wastewater treatment facility would either be detained for infiltration on the site, or captured and conveyed to the headworks of the treatment facility. This would be consistent with the City's Stormwater Management Plan, which dictates installation of post-construction BMPs to prevent pollutants from entering the storm drainage system during occupation. On-site integration of water quality control measures, such as biofilters adjacent to site driveways, would further reduce the transport and release of water pollutants into Winter Canyon Creek, Malibu Creek, and Malibu Lagoon. Biosolids would be hauled by tanker truck to the Joint Water Pollution Control Plant operated by the Sanitation Districts of Los Angeles County, or other suitable permitted facility. Because trucks would be completely enclosed and biosolids would be conveyed to properly permitted sites, no water quality impacts are expected to result from biosolidsdisposal.

Collection system pipelines and pump stations would be located underground and are not expected to pose a substantial risk of rupture or leakage. The likelihood of an overflow or bypass of untreated or partially treated wastewater at the treatment facility is remote because the treatment tanks would be located below ground and designed with excess storage capacity to meet minimum influent storage capacity requirements. Risk of leak or rupture would be minimized and reduced to acceptable levels through proper design and construction practices and through normal daily operator surveillance of the facilities. In addition, the wastewater treatment facility is designed so that flows on site would be captured and sent to the headworks, which would capture any leaks on site and the Proposed Alternative would be operating under permits requiring the development and implementation of a sewer system management plan (SSMP) that includes, among other things, an emergency response plan to address pipeline breaks and overflows. Given these factors, the potential for release of pollutants from the CCWTF collection system pipelines, pump stations and the wastewater treatment facility and resulting impacts is considered less than significant.

Operation of CCWTF Recycled Water Distribution Pipeline and Irrigation with Recycled Water

Use of recycled water for landscape irrigation is not expected to have adverse effects on water quality in the MVGB. The Mitigated Negative Declaration that was prepared for the State's General Permit for Landscape Irrigation Uses of Municipal Recycled Water (SWRCB, 2009)

acknowledges that there could be degradation of groundwater resulting from recycled water but states that: "Degradation of groundwater by constituents in recycled water after effective source control, treatment, and control may be determined to be consistent with maximum benefit to the people of California." The document then goes on to saythat:

> "This determination is based on considerations of reasonableness under the circumstances of the recycled water use. Factors to be considered include:
>
> - Past, present, and probable beneficial uses of the receiving water (as specified in the applicable Water Quality Control Plan;
> - Economic and social costs, tangible and intangible, of the recycled water usage compared to the benefits;
> - Environmental aspects of the recycled water usage; and
> - Implementation of feasible alternative treatment or controlmethods.

The proposed General Permit establishes terms and conditions of discharge to ensure that the discharge does not unreasonably affect present and anticipated beneficial uses of groundwater and surface water for the following reasons:

- Recycled water will be applied at agronomic rates reflecting the seasonal hydraulic and nutrient requirements of the Use Area;
- The Producer is responsible for ensuring that recycled water meets the quality standards of the General Permit and associated waste discharge requirement order(s) for the WWTP(s); and
- The discharge to surface waters, unless otherwise authorized by an NPDES permit, is prohibited."

Finally, the document states that:

> "To comply with the proposed General Permit, Producers and Distributors must implement, and ensure users implement, the following treatment and control measures necessary to avoid pollution or nuisance and maintain the highest water quality consistent with the maximum benefit to the people of the state:
>
> - Treatment and use standards necessary to produce disinfected tertiary recycled water and implement the applicable Title 22 Requirements;
> - Recycled water application at agronomicrates;
> - Identify and implement best management practices;
> - Develop, maintain, and implement an Operation & Maintenance Plan; and
> - Trained personnel (e.g., recycled water supervisor)."

Compliance with the State Water Board General Waste Discharge Requirements (WDRs) for Landscape Irrigation Uses of Municipal Recycled Water (Recycled Water General Permit) (Order No. 2009-0006-DWQ) and/or similar provisions included in project-specific WDRs would ensure the protection of surface and groundwater quality. As noted above, recycled water must be applied at rates that meet the water needs of landscape areas, and without over-irrigating (i.e. application at "agronomic rates"); Title 22 expressly requires that any irrigation runoff must be contained within the recycled water use area (unless authorized by the LARWQCB). To ensure appropriate application, personnel using recycled water would be appropriately trained. With

implementation of the permit condition measures described above, potential recycled water irrigation-related impacts to water quality would be reduced to less than significant levels and no mitigation is required.

Injection and Percolation

Planned dispersal operations for the CCWTF project aim to reuse as much recycled water for irrigation and non-potable reuse as feasible; any unused recycled water would be dispersed underground. Dispersal is anticipated to be predominantly via injection into the Malibu Valley Groundwater Basin; however, percolation ponds will be constructed at the treatment plant site for use along with existing seepage pits at the site as redundant dispersal capacity. Use of these percolation facilities (new percolation ponds and existing seepage pits) on a regular basis is not anticipated.

In its draft regulation for replenishment of groundwater with recycled municipal wastewater, the CDPH defines recycled municipal wastewater as recycled water that is the effluent from treatment of a wastewater of municipal origin, such as the recycled water that would be generated by the Proposed Alternative. In forming the draft requirements, CDPH acknowledges that recycled waters of municipal origin is of 'common' quality (that is, generally the same), provided the wastewater management agency administers an industrial pretreatment and pollutant source control program. To this end, the primary constituents of concern to be addressed for recycled water injection are pathogenic microorganisms, salts, nutrients and constituents of emerging concern (CECs). Recycled water to be produced by the Proposed Alternative would be disinfected to meet Title 22 standards for unrestricted recycled water use, and would be monitored as specified in the WDRs to ensure that there are no unacceptable pathogen risks.

In its Statewide Recycled Water Policy, the State Water Resources Control Board (State Water Board) acknowledges the potential for salts and nitrogen compounds to be of concern relative to the use of recycled water and its potential impacts on groundwater quality because high levels of salts and nutrients can make groundwater unsuitable for drinking. The policy therefore calls for the preparation of a SNMP to aid in management of these compounds relative to groundwater quality when evaluating and approving recycled water projects. Finally, in the Statewide Recycled Water Policy, the State Water Board acknowledges concerns regarding constituents of emerging concern (CECs). In response, it requires regular monitoring for CECs consistent with recommendations by CDPH and the 'blue-ribbon' advisory panel that was convened by the State Water Board to guide future actions relating to CECs.

In evaluating the potential for impacts on groundwater quality resulting from the injection of recycled water as part of the CCWTF project, groundwater quality change analyses were conducted focusing on changes to groundwater salinity and nitrogen compound concentrations. This analysis focused on impacts to the Malibu Valley Groundwater Basin as the majority of the unused recycled water will be injected in the groundwater basin. Impacts to Winter Canyon groundwater are not expected to be significant as the percolation facilities at the treatment plant site would not be used on a regular basis but rather to provide back-up dispersal capacity to the proposed injection wells. Pathogenic microorganisms were not considered as the recycled water produced by the CCWTF project would be disinfected, and CECs were not considered because, while technology allows for the detection of CECs in water, there is currently no frame of reference to determine what risks may or may not exist nor any regulatory guidelines or standards against which to evaluate detectable concentrations. It has been documented that CEC concentrations in septic tank effluent ranges from tens of nanograms per liter to tens of

micrograms per liter (Schaider, et. al, 2013); therefore, it is anticipated that, at present, OWDS discharges are contributing CECs to the Malibu Valley Groundwater Basin. Little research has been done to date to study the fate and transport of CECs in the subsurface and/or to compare the efficacy of CEC removal by various treatment technologies. A study by the U.S. Environmental Protection Agency (August 2010) noted that UV disinfection, such as that included for the Proposed Alternative, will result in some removal of selected CECs. Another study found that the CEC removal efficiencies by OWDSs were relatively lower than or comparable to those by centralized municipal treatment plants (Du et. al., 2014). Therefore, the CCWTF project, when implemented, would likely result in less than or similar levels of CEC discharges to the Malibu Valley Groundwater Basin and the Winter Canyon alluvium to those which occur under present conditions.

Consistent with the approach for evaluating the potential for groundwater impacts as part of SNMP development, indicator constituents were selected to evaluate salinity and nitrogen compound concentration changes over time. Total Dissolved Solids (TDS) was selected as the primary indicator parameter for salinity for the following reasons:

- It is a constituent regularly monitored and detected in both source and receivingwaters;
- It is conservative in theenvironment;
- It is representative of other salts (TDS is a compilation of general minerals and provides a good relative indicator of concentration trends in the groundwater basin for other salts); and
- It is a constituent subject to a water quality objective within the Basin Plan.

Nitrate was selected as an indicator for nitrogen compounds for similar reasons. Nitrate is one of the primary constituents for both groundwater and recycled water quality monitoring and WQOs for nitrate have been established in the Basin Plan. The analysis of future groundwater quality trends to be anticipated from implementation of the Recommended Alternative is found in the Technical Memorandum entitled *Assimilative Capacity and Anti-Degradation Analysis for Proposed Injection Dispersal* (RMC, 2014).

Overall, the injection and/or percolation of recycled water into the Malibu Valley Groundwater Basin as part of the CCWTF project would decrease TDS groundwater concentrations with time, and would result in increased concentrations of nitrogen in the Civic Center Gravels, though this increase would be offset by decreases in nitrogen concentrations in the shallow alluvium. In general, the overall loading of nutrients to the groundwater basin would be reduced due to improved wastewater effluent treatment, and the direct discharges to groundwater would be limited to a few locations within the groundwater basin rather than dispersed throughout the basin. Additionally, the area of the groundwater basin that would be affected by injection is small relative to the overall size of the groundwater basin, and groundwater modeling demonstrates that all flows would go to the Pacific Ocean/Santa Monica Bay and not Malibu Creek or Lagoon.

The anticipated increases in groundwater nitrate concentrations in the Civic Center Gravels are considered a degradation of the groundwater basin. To ensure that the anticipated increase in nutrient concentrations do not cause a significant adverse impact, the applicant must obtain approval from the Regional Board through an antidegradation analysis that complies with the state's antidegradation policy. To comply with the antidegradation policy, similar to the use of recycled water for irrigation, the analysis must demonstrate the anticipated increases in nitrate concentration will not affect present and future beneficial use of groundwater and will not result

in water quality less than that prescribed in the policies. Furthermore, waste discharges that lead to increased volume or concentration of waste are required to meet WDRs, which will result in the best practicable control of discharges necessary to assure that pollution or a nuisance will not occur and that the highest water quality consistent with the maximum benefit to the people will be maintained.

The *Assimilative Capacity and Anti-Degradation Analysis for Proposed Injection Dispersal* (RMC, 2014) has been prepared for the CCWTF project to comply with these requirements and demonstrates:

- Past, present, and probable beneficial uses of the receiving water (as specified in the applicable Basin Plan) are either improved or remain unaffected by the nitrate concentration increase (that is, nitrate concentrations in the Civic Center Gravels projected into the future remain below the numerical water quality objective set forth in the Basin Plan for groundwater with a Municipal designateduse);
- Water quality improvements to be gained by eliminating nitrogen loading in the shallow alluvium connected to Malibu Creek and Lagoon, which are 303(d) listed waterbodies;
- Economic and social costs, tangible and intangible, of the continued use of OWDS relative to the benefits to be achieved by the CCWTFproject;
- Environmental aspects of the recycled water usage (including the seawater intrusion barrier benefits to be achieved via the injection program); and
- Implementation of feasible alternative treatment or controlmethods.

Measures to control the loading of salts and nutrients to the groundwater basin resulting from the injection and percolation of recycled water (and the associated increases in groundwater concentrations for those constituents) are detailed in the MVGB SNMP, and will help to mitigate impacts associated with recycled water use and injection in the groundwater basin. These BMPs include, but are not limited to, the use of biofiltration treatment systems to address loadings from stormwater recharge, landscape irrigation management practices and education, and water softener ordinances to reduce the use of softeners using salts. The MVGB SNMP would adopted by the LARWQCB as part of its Basin Plan implementation chapter, and when implemented, the BMPs contained in the plan would ensure that treatment and control measures necessary to minimize pollution or nuisance would be followed to maintain high water quality consistent with the maximum benefit to the people of the state and compliance with regulatory standards (water quality objectives) for the aquifer use designation. Compliance with the site-specific WDR and the basin-wide SNMP would reduce nutrient-loading impacts to less thansignificant.

In summary, the Recommended Alternative, containing the CCWTF project and management actions or BMPs to manage salt and nutrient loading to the groundwater basin, is being conducted to meet the City's obligations under the MOU, which in turn is aimed at providing water quality benefits to Malibu Creek and Lagoon, a 303(d) listed water body. The long-term beneficial uses of the groundwater basin as a municipal supply would remain intact. Therefore, the potential for groundwater impacts is considered to be less thansignificant.

Resource 7B: Will the Proposed Alternative substantially deplete groundwater supplies or interfere substantially with groundwater recharge?

The Recommended Alternative would not result in the depletion of groundwater supplies. While construction of the CCWTF wastewater treatment plant would result in an overall increase in paved areas,

this project would not result in a substantial decrease in groundwater recharge. Therefore, there would be no impacts on groundwater supplies resulting from the Recommended Alternative.

Effects on Groundwater Levels

Significance Determination: No Impact.

The CCWTF wastewater treatment facility, injection well facilities, and pump stations would create a minor amount of new impervious surface area, but this is not expected to have a substantial effect on groundwater recharge. Irrigation with recycled water would be done at rates that would meet the water needs of the irrigated area and is not expected to result in percolation of substantial amounts of water into the groundwater basin. The CCWTF project, included in the Recommended Alternative, includes both groundwater injection and percolation, so the net effect on groundwater would be to increase groundwater levels in the vicinity of the injection wells (Geosyntec Consultants, 2013).

The percolation and injection of recycled water has been designed to prevent the rise of groundwater levels to within 5 feet of ground surface, except in certain areas where shallower groundwater levels have traditionally occurred (e.g. wetlands). (A depth to water limit of 5 feet was selected to reflect the approximate depth of septic systems in the Proposed Alternative area at lower elevations.) The potential for groundwater mounding from groundwater injection associated with the CCWTF was evaluated for current conditions and Phases 1, 2, and 3 of the CCWTF project, respectively (Geosyntec Consultants, 2013; McDonald Morrissey and Associates, 2014); these results indicate that injection of treated effluent from the CCWTF wastewater treatment facility has little to no impact on shallow groundwater elevations at the injection sites, and that these groundwater levels would remain at or below current levels. The results also indicate that, as OWDSs are removed from operation, shallow groundwater elevations decrease (drop) as a result of the transference of recharges from the shallow alluvium to the deeper Civic Center Gravels. Therefore, there are no significant impacts associated with rising groundwater levels, nor any impacts associated with groundwater depletion.

Effects on Malibu Creek and Lagoon Flows

Significance Determination: No Impact.

As previously discussed, the shallow alluvium of the Malibu Valley Groundwater Basin appears to have a subsurface hydraulic connection with Malibu Creek and Lagoon. Based on simulations of CCWTF project implementation, groundwater elevations in the shallow alluvium are expected to decrease on the order of 1/10th of a foot as OWDSs are removed from service. These changes in shallow groundwater hydrology could have an impact on the flows to and/or in Malibu Creek and Lagoon; however, it is important to recognize that the recent restoration of Malibu Lagoon may also result in significant changes to surface water elevations in Malibu Creek and Lagoon in the future. Given that this restoration project has only been recently completed, there are no baseline surface water elevation and/or flow data to which an analysis can compared, and therefore a qualitative analysis of the potential impacts resulting from implementation of the CCWTF project was conducted.

Groundwater flow modeling conducted in support of the CCWTF project (McDonald Morrissey and Associates, 2014) indicates that, under maximum injection conditions and as each phase of the project is implemented, average annual flows from the groundwater basin to Malibu Creek and Lagoon would increase as a result of changes in flow regime in that hydraulic zone. In general,

the injected flows will create a groundwater mound, with all injected recycled water flowing to the Ocean. Groundwater upgradient of the injection site will be diverted by the injection mounding to some extent, redirecting some of the shallower upgradient flows to Malibu Creek. This change in upgradient groundwater flow regime will occur over the length of the Creek, minimizing potential impacts to the Creek and Lagoon. At the end of Phase 3 of CCWTF project implementation, basin outflows to Malibu Creek and Lagoon could potentially increase by about 18 percent. These simulations assume, however, that more recycled water would be injected into the Malibu Valley Groundwater Basin than would actually occur under planned operating conditions; the simulations documented in the modeling analysis included in Appendix G4 of the CCWTF project EIR (included as Appendix C of this SED) represent the maximum injection conditions and assume more recycled water injected into the groundwater basin than will be produced at the treatment plant.

If the same groundwater flow model is used to simulate injection at the planned average injection rate shown above, basin outflows to Malibu Creek and Lagoon would change minimally, with groundwater basin outflows to Malibu Creek and Lagoon increasing slightly from current conditions (by approximately 2.4 percent or 13,000 gpd) in Phase 1 of the CCWTF project due to planned commercial development in the Civic Center Area. Groundwater basin outflows to Malibu Creek and Lagoon would increase by approximately 3 percent above baseline (or approximately 16,000 gpd) in Phase 2 of the CCWTF project, but then decrease to approximately 2 percent above baseline conditions (or approximately 12,000 gpd) in Phase 3 of CCWTF project implementation as domestic OWDSs cease operations. These increases would be within the natural variations of flow rates within Malibu Creek and Lagoon by season and annually. Based on historical flow data as presented in Table 6-1 of the Total Maximum Daily Loads (TMDLs) for Malibu Creek and Lagoon (USEPA, 2013), median daily flow in Malibu Creek between 2007 and 2010 was 3.6 cfs; this is equivalent to 2.3 million gallons per day. Therefore, the maximum anticipated increase in groundwater flows to Malibu Creek using the planned average injection rate for the CCWTF project (16,000 gpd in Phase 2) is approximately 0.69% of the total flows in the creek. And as breaching typically results from a large pulse of surface water flows resulting from storm events, this minor increase in flows to Malibu Creek are unlikely to impact the breaching patters in the Creek/Lagoon.

Furthermore, under the planned average injection rate for the CCWTF project, all injected flows would go to the Pacific Ocean (unchanged from scenarios with the maximum recycled water injections); see Appendix G5 of the CCWTF project EIR (included as Appendix C of this SED) for the additional numerical modeling analysis results. Therefore, the quality of the additional groundwater flowing to Malibu Creek and Lagoon would be unchanged in terms of some key constituents, such as salinity, and improved for other cases, such as nutrients, as a result of project implementation. Salinity changes resulting from the increased groundwater flow to Malibu Creek are also anticipated to be negligible. Based on groundwater sampling conducted to date (and as documented in the Assimilative Capacity and Anti-Degradation Analysis memorandum included in Appendix G2 of the Malibu CCWTF project EIR; see Appendix C of this EIR), average groundwater TDS concentrations for the Malibu Valley Groundwater Basin is 2,100 mg/L. Per Table 7-3 of the TMDLs for Malibu Creek and Lagoon (USEPA, 2013), median stream specific conductivity in Malibu Creek at Cross Creek Road between 1998 and 2010 was 1,869 µS/cm; this is equivalent to 1,200 mg/L TDS. Using a mass balance approach, the additional groundwater flowing to Malibu Creek as documented above will increase Malibu Creek TDS concentrations by approximately 6 mg/L or 0.51%. Under planned CCWTF operating conditions, the potential future impacts of additional groundwater flows to Malibu Creek and Lagoon are not considered to be significant.

On average, under current conditions, OWDS flows to the shallow alluvium, and therefore to Malibu Creek and Lagoon, total approximately 324,360 gpd. Current conditions are not at buildout, while modeled conditions for Phase 3 of the CCWTF project do represent buildout conditions in the Civic Center Area. At projected Civic Center Area buildout, OWDS flows to the groundwater basin are expected to increase to 469,280 gpd; a 45 percent increase in flows to Malibu Creek and Lagoon. Therefore, by implementing the Recommended Alternative, the potential future impacts of additional groundwater flows to Malibu Creek and Lagoon will be reduced, and thus this impact is considered not to be of significance.

Resource 7C: Will the Proposed Alternative substantially alter the existing drainage pattern of the site or area or create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems?

Significance Determination: Less than Significant Impact.

The one project contained in the Recommended Alternative (the CCWTF project) would alter the existing drainage patterns in the Civic Center area as a result of construction of a new wastewater treatment plant, injection wells, and pump stations. New pipelines would be constructed in existing roadways and would not alter drainage patterns.

The area of construction associated with the injection wells (and associated facilities) and the pump stations would be relatively small. Much of these structures would be located below grade, and site grading following construction would be returned to existing conditions as much as possible. The additional impermeable surfaces resulting from the construction of these facilities would be small and is not expected to significantly increase runoff that could cause flooding. No other recycled water projects are planned for the Civic Center Area of Malibu other than the CCWTF project.

The CCWTF wastewater treatment facility construction would require grading in order to prepare the site for construction, but construction activities would not be expected to increase runoff. Once operational, the facility has been designed and graded such that all runoff from storm events would be captured and routed back to the headworks of the facility for treatment, which would ensure compliance with SWMP requirements, LIP Chapter 17, and the City's MS4 Permit. Runoff from the portion of the site access road passing through the 100-foot ESHA buffer would pass through a vegetated buffer before entering the wetlands area. Construction of the treatment facility would also result in the installation of a sidewalk along the south side of Civic Center Way. A curb and gutter system would be constructed as part of the sidewalk installation, directing stormwater runoff to an existing 84-inch diameter stormwater pipeline via an existing inlet on Civic Center Way. Improvements would be made to this inlet as part of the facilityconstruction

As a result of CCWTF project design, the impacts associated with runoff causing flooding or exceeding the capacity of storm drains would be less than significant.

Resource 7D: Will the Proposed Alternative place housing or other structures within a 100-Year flood hazard area?

Significance Determination: Less than Significant Impact.

The Recommended Alternative would not construct any housing or habitable structures within the 100-year floodplain. The CCWTF wastewater treatment plant site, Bluffs Park pump station, and the injection well heads would be outside the 100-year floodplain, but the Legacy Park pump

station and two other future phase pump stations would be within the 100-year floodplain. The existing detention pond at Legacy Park, which was constructed as part of the Legacy Park Project, is expected to provide adequate capacity to address the potential for on-site flooding at the Legacy Park pump station site. In addition, pump stations would be relatively small, with the majority of the structure located underground. Only a vent, electrical panel, transformer, and backup generator would be above ground, and these features are small enough that they are not expected to impede or redirect flood flows. In order to ensure ongoing system operations in the event of a flood, above-ground pump station features would be mounted on concrete pedestals at elevations above the anticipated flood level. Impacts associated with flooding thus would be less than significant.

Resource 7E: Will the Proposed Alternative expose people or structures to a significant risk of loss, injury or depth involving flooding, including flooding as a result of the failure of a levee or dam?

Significance Determination: No Impact.

The Recommended Alternative does not include any levees or dams nor is it located in a levee or dam failure inundation zone, so there would be no potential for impacts associated with levee or dam failure.

As previously discussed, recycled water injected into the Malibu Valley Groundwater Basin as part of the CCWTF project will flow to the ocean unimpeded, and therefore will not result in a risk of flooding. Recycled water percolated in Winter Canyon will infiltrate (migrate) to the water table, located between 12 and 50 feet mean sea level; well below the fill underlying PCH. Therefore, as with the Malibu Valley Groundwater Basin, percolated groundwater will flow unimpeded to the ocean within the Winter Canyon watershed much as ispresently occurring.

Resource 7F: Will the Proposed Alternative be subject to Inundation from seiche, tsunami or mudflow?

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

The Recommended Alternative only contains one project, the CCWTF project. The wastewater treatment facility site for the CCWTF project is outside the tsunami inundation zone identified by the City of Malibu (City of Malibu 2012), but the associated pump stations, injection wells and a large portion of the pipelines are within the tsunami inundation zone. However, because these structures are not habitable, and would, for the most part, be located underground, they would not subject humans to these hazards. Above-grade structures associated with the pump stations and injection well sites, including electrical panels, transformers and generators, could potentially be impacted by tsunami flows and could pose a potentially significant impact. However, with the development and implementation of Mitigation Measure HY-1 below, this risk would be reduced to less than significant.

The CCWTF wastewater treatment plant is approximately one mile from Malibu Lagoon and is therefore not at risk from a seiche. There is only one above-grade pipeline that would be proximate to Malibu Lagoon and it would be located on the Pacific Coast Highway Bridge. This bridge was designed to consider conditions such as this, and the pipeline crossing would be at similar level of risk due to a seiche as the bridge itself. Therefore, this impact is considered to be less than significant.

Finally, the CCWTF wastewater treatment facility would be located on a property that abuts a steep slope on its western side. As part of the geotechnical analyses conducted in support of plant

design, this hillside was evaluated for geotechnical stability and the facility is designed to address any potential landslides or mudflows that could occur as a result of intense rainfall. To that end, this impact is considered to be less than significant.

Mitigation Measure

- **HY-1: Tsunami Response Plan.** The City will prepare and implement a Tsunami Response Plan for the CCWTF project that defines emergency response and coordination procedures. The Tsunami Response Plan shall contain significant information specific to actions that may be necessary related to receipt of a tsunami watch, warning, or as a result of an actual tsunami. The first priority of emergency management response shall be the protection of life and property.

6.3.8 Land Use and Planning

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to directly or indirectly impact land use and planning as a result of implementation. Management actions contained in the Recommended Alternative, such as basin recharge area mapping, have the potential to indirectly impact land use and planning in the MVGB.

Resource 8A: Will the Proposed Alternative physically divide an established community?

Proposed Wastewater Treatment Facility

Significance Determination: Less than Significant Impact.

The one project contained in the Recommended Alternative would include the construction of a new centralized wastewater treatment facility as part of Phase 1 of the CCWTF project. This treatment facility that would treat wastewater flows from properties in the Prohibition Zone and would be located at 24000 Civic Center Way, between Civic Center Way on the north, PCH on the south, and vacant land on the west. The site is currently developed, in part, with the existing small scale, privately owned and operated wastewater treatment facility serving the Malibu Colony Plaza shopping center (located on the south side of PCH), the Supercare/Malibu Medical Building, and facilities located at 23661 PCH and 23648 to 23670 PCH. The remaining portions of the site are undeveloped and vacant. No residential uses are located on this site. The closest residences are within the Maison Deville, Toscana, Malibu Canyon Village, and Vista Pacifica condominium complexes on DeVille Way; the south side of the complexes is visible from Civic Center Way, opposite and extending east of the treatment plant site. Construction and operation of the proposed wastewater treatment facility would not divide an established community. Specifically, construction and operation of the proposed wastewater treatment facility, including miscellaneous associated facilities, would not affect the connectivity of surrounding land uses, as the treatment facility site is the location of an existing wastewater treatment plant and is separated from the nearest residences by Civic Center Way. Phases 2 and 3 of the CCWTF project may also require the design and construction of recycled water storage tanks and booster pump stations to accommodate the delivery of recycled water. Similar to Phase 1, Phases 2 and 3 of the CCWTF project would not divide an established community. No significant land use impacts would occur.

Proposed Collection and Recycled Water Distribution Systems

Significance Determination: Less than Significant Impact.

Phase 1 of the City of Malibu's Memorandum of Understanding with the LARWQCB requires commercial properties within the core of the Civic Center area to connect to the proposed CCWTF wastewater treatment facility by November 5, 2015. Under Phase 1 of the CCWTF project, the proposed collection and the recycled water distribution systems would follow existing street alignments, including Civic Center Way, Stuart Ranch Road, Cross Creek Road, Webb Way, Malibu Road, Malibu Canyon Road, Winter Canyon Road, and a small portion of PCH. No residential uses would be converted or displaced directly as a result of construction or operation of the collection and distribution systems.

Phase 2 of the CCWTF would require the connection of residential properties located adjacent to or in proximity to the impaired bodies of water identified in the Prohibition resolution. Phase 2 development in the Los Angeles County portion of the Prohibition Zone would include the construction of pipelines along residential streets (such as Palm Canyon Lane). Under Phase 3 of the CCWTF, the connection of the remainder of the residential properties located within the Prohibition Zone would occur only if implementation of Phases 1 and 2 fail to result in meaningful reductions in the bacterial and nutrient impairments of the identified water bodies pursuant to the MOU. No residential uses would be converted or displaced directly as a result of construction or operation of the distribution systems proposed under Phases 2 and 3.

Pipelines for the collection and distribution systems would generally be constructed in existing roadways using cut-and-cover techniques. In locations where major roadways or streams would be crossed, some form of trenchless technology would be employed for pipeline installation. Cut-and-cover construction would include removing pavement, excavating a trench, placing pipe, refilling the trench, and repaving. With cut-and-cover construction, approximately 50 to 100 feet of pipeline could be installed each day. These construction activities could result in short-term temporary disruptions to access to surrounding uses. Because these impacts would be temporary and short term, the land use impacts would be less thansignificant.

Construction and implementation of the proposed collection and recycled water distribution systems, as well as associated pump stations and injection wells, would not physically divide any residential communities in the surrounding area. Operation and maintenance of the Proposed Alternative would require routine truck traffic to the wastewater treatment facility each week as well as inspections of the pump stations, injection wells, and pipelines every 2 to 3 months. These activities would not require any limitations on access along local roads such that a temporary division of the community would occur. No significant impacts wouldoccur.

Resource 8B: Will the Proposed Alternative conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Recommended Alternative (including, but not limited to, the general plan, specific plan, Local Coastal Program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmentaleffect?

As previously noted, the Recommended Alternative only contains one project – the CCWTF project. All other actions contained in the Recommended Alternative are for program and regulation development and implementation.

Management actions related to land use regulation provide mechanisms to support water quality management ordinances and public education. New ordinances, such as one banning salt-based

regenerative water softeners, provide mechanisms for managing recycled water quality. Public education includes information provided via websites and non-profit organizations. However, the ordinances and public education programs would not result in alteration of the present or planned land uses of the MVGB. Similarly, BMPs associated with LID projects may alter the materials and vegetation of the site to facilitate groundwater recharge and reduced stormwater runoff, but not result in alteration of land use at the surface of a site. Thus, impacts to present and planned uses from planned management actions would be less thansignificant.

Significance Determination: Less than Significant Impact.

The CCWTF project, contained in the Recommended Alternative, has been designed to meet the requirements of the City of Malibu's MOU with the State Water Resources Control Board, which was formally executed on August 19, 2011. Implementation of the CCWTF project would not conflict with the goals of regional or local plans and policies. Specifically, the goals of the CCWTF project to maximize reuse of recycled water and minimize saltwater intrusion with injection of highly treated effluent to support the Basin Plan beneficial use designation and would not conflict with SCAG's regional goals.

Final design of the CCWTF has been subject to development standards found in the LCP and City of Malibu Municipal Code. The maximum structure heights of treatment plant facilities will be between 18 and 28 feet, and any potential impacts on native trees, ESHAs, visual resources, or water resources/quality would be consistent with the standards of the LCP. Due to unique characteristics of a wastewater treatment plant, existing use of the site as a wastewater treatment facility, and in order to maintain compatibility with nearby uses, the Civic Center Wastewater Treatment Facility Institutional Overlay District would allow the Proposed Alternative as a conditional use in the CV-2 zone.

The CCWTF project is also consistent with relevant local objectives and policies, including the City of Malibu General Plan Land Use Element and the Transportation and Infrastructure Element. Additionally, the project requires several discretionary approvals at the state and local level. City of Malibu discretionary approvals include a Coastal Development Permit, including a conditional use permit. An LCP amendment and zoning text and map amendments are also be required to make the project consistent with the LCP Land Use Plan and City zoning. Approval of the LCP amendment is subject to certification by the Coastal Commission and has been approved and found consistent. Because the CCWTF project would not result in a significant physical impact on the environment due to an inconsistency with the City's General Plan, Zoning Code, Municipal Code, or LCP, no impacts would occur, and no mitigation measures have been found to be necessary.

Resource 8C: Will the Proposed Alternative conflict with any applicable habitat conservation plan or natural community conservation plan?

Significance Determination: Less than Significant Impact.

There are no Habitat Conservation Plans or Natural Community Conservation Plans that are applicable to the Malibu area. Additionally, the LCP/LIP ESHA map does not designate the wastewater treatment facility site or the proposed disturbance areas for the collection and distribution system as ESHAs. Winter Canyon Creek, which is located in the southeastern portion of the wastewater treatment facility site, is depicted as a blue-line stream on the Malibu Beach topographic quadrangle map (USGS, 1950) and the LCP/LIP ESHA map. A jurisdictional delineation prepared for the Proposed Alternative determined that approximately 0.37 acre of jurisdictional

wetland occur within the proposed wastewater treatment facility site within the Winter Canyon Creek drainage located approximately 100 feet from the nearest wastewater treatment facility infrastructure. These wetland features are considered ESHA under the LIP.

Construction and operation of the CCWTF project (the one project contained in the Recommended Alternative) would be subject to requirements and standards set forth in the LCP, M.M.C. and General Plan regarding development adjacent to designated ESHAs. This would include any applicable design, construction, and operational requirements. The project would comply with all City of Malibu requirements and policies related to developments located adjacent to ESHAs and the proposed LCPA/ZTA because no construction work would directly affect the wetland features in the Winter Canyon Creek drainage and the LCP amendment includes specific allowances for a reduced ESHA buffer as well as requirements for construction and operation of the project to comply with the LIP ESHA requirements. Accordingly, the CCWTF project would not conflict with LIP ESHA requirements.

Pipelines associated with the CCWTF collection and distribution systems would be installed within existing public roadways and private easements. CCWTF Phase 1 pump stations and other similar infrastructure are proposed to be constructed in disturbed and/or paved areas in Malibu Bluffs Park (within and adjacent to the parking lot) and Legacy Park (within an area vegetated with native habitat adjacent to the Civic Center Way parking stalls and pathway) where the potential for disrupting sensitive habitat is least likely in these park facilities. The LCPA/ZTA would conditionally permit infrastructure related to the Proposed Alternative in the Public Open Space (POS) zone, which includes Malibu Bluffs Park. Injection wells would be installed along Malibu Road in the right-of-way adjacent to commercial development and roadways where there is limited habitat and no ESHA. Areas adjacent to where the pipeline and injection well infrastructure would be installed are generally developed with residential and commercial uses. However, there are patches of open space between some developments. These areas are not within any mapped ESHA, except where the pipelines would need to cross Malibu Creek in Phase 2. Infrastructure construction is not proposed within an ESHA; however, some components are within the standard 100 feet required for wetland ESHA buffers. The buffer areas that would be affected are disturbed and/or paved and do not contain any sensitive habitat, vegetation, or wetland features.

It is anticipated that the CCWTF project would meet all of the requirements outlined in the LCP and any amendments. According to the LCP, the purpose of the ESHA buffer is to protect transitional habitat. The reduced ESHA buffer proposed for the CCWTF project as proposed would be considered a less-than-significant impact because no transitional habitat would be disturbed and new habitat would be planted to offset the reduced buffer area on a one-to-one basis. No mitigation measures would be required.

6.3.9 Noise

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to directly or indirectly result in noise impacts as a result of implementation (construction and/or operation). Management actions contained in the Recommended Alternative will not result in noise-related impacts.

Resource 9A: Will the Proposed Alternative expose persons to or generate noise levels in excess of standards established in a local General Plan or noise ordinance or applicable standards of other agencies?

The Recommended Alternative contains only one project (the CCWTF project) that has the potential to generate noise.

Construction

Significance Determination: Potentially Significant Impact.

Under the Recommended Alternative, the area in and around the Malibu Civic Center would be taken off septic systems through the development of the CCWTF project, including a three-phase wastewater treatment facility and a 13.7-mile conveyance system. Additionally, an off-site recycled water distribution system would be constructed to distribute disinfected tertiary-treated effluent from the CCWTF wastewater treatment facility to various land uses for reuse purposes. Pipelines for the wastewater treatment facility, pump stations, and recycled water distribution system would be constructed within the same trench.

Construction equipment for CCWTF project was analyzed using the RCNM. The acoustical center of construction for the proposed wastewater treatment facility would be approximately 300 feet from the closest sensitive receiver. The full complement of construction equipment was modeled for construction of the wastewater treatment facility. The measured ambient noise level at the closest receptor, ST-1, was 68 dBA Leq (when rounded to the nearest whole number); when modeled using anticipated construction equipment for CCWTF, the construction noise level at receiver ST-1 would be 69 dBA Leq (when rounded to the nearest whole number). A noise level of this magnitude would be on the order of 1 dBA louder than the existing ambient noise level. An increase of this magnitude would be below the threshold of perception, because 3 dBA is considered to be the point at which changes in noise levels are perceptible.

The next-closest sensitive receiver is approximately 1,300 feet from the acoustical center of construction. The measured ambient noise level at ST-2 (the second closest receiver location) was 53 dBA Leq. Given the basic rule that noise reduces at a rate of 6 dB per doubling of distance, construction noise levels would be approximately 56 dBA Leq at this location. Construction noise levels of this magnitude would be 3 dB above the existing ambient noise level, which would be the level of perceptibility. Noise levels at all other measured receivers would be below the existing ambient noise level.

Construction associated with the proposed pump stations would most likely be located within 50 feet of sensitive receivers along Malibu Colony Road and Malibu Road. The equipment modeled for construction of the proposed pipeline network included an excavator, backhoe, paver, and front-end loader. Because the pump stations would be located throughout the Malibu Civic Center area, the noise profile range would depend on where the pump stations would be located. The pump stations proposed along Malibu Colony Road and Malibu Road would be closest to sensitive receivers. Construction noise levels at homes located in this area were calculated to be 81 dBA Leq. Noise levels of this magnitude would be noticeable and would most likely dominate the noise profile during construction. Construction noise levels at other locations would range from 49 dBA to 65 dBA Leq.

Construction associated with the proposed pipeline network would most likely be located within 50 feet of sensitive receivers. The equipment modeled for construction of the proposed pipeline network included an excavator, backhoe, and paver for conventional pipeline construction. At some locations, jack-and-bore construction would be employed. This technique would require use of a crane, generator, compressor, welder, concrete pump, cement mixer truck, dump trucks, flatbed trucks, water trucks, and an auger, which would be lowered into a “jack pit” to drill the pipe laterally. Based on an analysis of comparable jack-and-bore sites, the noise level from this type of construction would be 89 dBA Leq[13] at a distance of 50 feet.

All modeled measurement locations have noise-sensitive land uses located within 50 feet of the proposed pipeline network. Construction noise levels at all measured sensitive receivers would be 80 dBA Leq during conventional construction and 89 dBA Leq during jack-and-bore construction of the proposed pipeline network. Noise levels of this magnitude would dominate the noise environment during construction. However, once construction of the pipeline network is completed, construction noise would cease. Because approximately 50 to 100 feet of pipeline could be installed each day, noise from pipeline construction would affect a given sensitive receptor for only a short period of time. In addition, construction would be expected to be within 50 feet of an individual receptor for less than 1week.

Los Angeles County

A portion of the proposed pipeline network that would be constructed under Phase 2 of the CCWTF project would be located within the jurisdictional boundary of the County of Los Angeles and adjacent to noise-sensitive residential uses. Although noise from construction of the proposed CCWTF wastewater treatment facility would attenuate to a level that would be imperceptible given the distance from construction to sensitive receivers within the County and the shielding provided by structures, noise from construction of the proposed pipeline network would occur close to these sensitive receivers. However, the magnitude of construction noise typically varies over time because construction activity is intermittent, and power demands on construction equipment (and the resulting noise output) are cyclical.

Noise levels during construction of the proposed pipeline network at noise-sensitive receivers would be similar to levels at the modeled receivers. Modeling indicates that noise levels could be as loud as 80 dBA Leq during conventional construction and 89 dBA Leq during jack-and-bore construction.

Construction noise levels of the magnitude anticipated would dominate the existing noise environment. County Code exempts construction activity, provided that it does not occur on weekdays between the hours of 7 p.m. and 7 a.m. or at any time on Sundays or holidays. However, the County requires that mobile equipment not exceed a maximum threshold of 75 dBA at single-family residential land uses. According to the noise analysis calculations, noise levels would exceed this threshold for a short period of time. Mitigation of a noise impact of this magnitude to a less-than-significant level would not be possible because the mitigation measures would involve erecting noise-attenuating structures such as temporary soundwalls or blankets, which would obstruct access to adjacent residences. However, other mitigation measures (see MM NV-1, below) would be implemented to reduce noise from construction to the greatest extent practicable. Nonetheless, even with the implementation of MM NV-1, construction impacts on noise-sensitive receivers within the County's jurisdiction would be significant andunavoidable.

City

Anticipated noise levels from construction of the proposed CCWTF wastewater treatment facility at noise-sensitive receivers would be 69 and 56 dBA at the two closest sensitive receivers, which are located within the City's jurisdiction. At these two locations, noise from construction would exceed the existing ambient noise level by 1 and 3 dB, respectively. Noise levels of this nature would be hardly perceptible.

Construction noise simulations indicate that noise levels from construction of the proposed pumps station at noise-sensitive receivers would be as high as 81 dBA Leq along Malibu Colony Road and between 49 and 65 dBA Leq at other measurement locations within the City's

jurisdiction. At ST-4, noise levels from construction would exceed the ambient noise level by as much as 14 dB. Noise levels associated with construction of the pump stations would exceed the measured ambient noise level by 8 dB. Noise levels at all other locations would be comparable to the measured ambient noise levels.

Noise levels at sensitive receivers located along the proposed pipeline network would be as high as 80 dBA Leq during conventional construction and 89 dBA Leq during jack-and-bore construction. As stated above, noise levels of this nature would dominate the noise environment. However, the magnitude of construction noise typically varies over time because construction is intermittent, and power demands on construction equipment (and the resulting noise output) are cyclical.

The City's Municipal Code exempts construction activity, provided that it does not occur on weekdays between the hours of 7 p.m. and 7 a.m., before 8 a.m. or after 5 p.m. on Saturday, or at any time on Sundays or holidays. Furthermore, MM NV-1, provided below, would be implemented to reduce noise from construction to the greatest extent practicable. Therefore, impacts would be less than significant.

Mitigation Measure

- **NV-1: Construction Noise Control.** The construction contractor shall use appropriate noise-control measures to reduce construction noise levels to the extent feasible. Noise controls could include any of the following, as appropriate:
    - Construction hours shall be in compliance with City and County noise ordinances during construction within each respective jurisdictional boundary.
    - Best available noise-control techniques (including mufflers, intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) shall be used for all equipment and trucks to minimize construction noise impacts.
    - If impact equipment (e.g., jackhammers and pavement breakers) is used during CCWTF project construction, hydraulically or electrically powered equipment shall be used wherever feasible to avoid the noise associated with compressed-air exhaust from pneumatically powered tools. However, where the use of pneumatically powered tools is unavoidable, an exhaust muffler on the compressed-air exhaust shall be used (a muffler can lower noise levels from the exhaust by up to about 10 dBA). External jackets on the tools themselves shall be used, where feasible, which could reduce noise by 5 dBA. Quieter procedures, such as drilling rather than impact equipment, shall be used whenever feasible.
    - Pile holes shall be pre-drilled wherever feasible to reduce potential noise and vibration impacts.
    - Stationary noise sources shall be located as far from sensitive receptors as feasible. If they must be located near receptors, adequate muffling (with enclosures where feasible and appropriate) shall be used to ensure that local noise ordinance limits are met to the extent feasible. Enclosure openings or venting shall face away from sensitive receptors. If any stationary equipment (e.g., ventilation fans, generators, dewatering pumps) is required, such

equipment shall comply with the daytime and nighttime noise limits specified in pertinent noise ordinances to the extent feasible.

- Material stockpiles as well as maintenance/equipment staging and parking areas shall be located as far as feasible from residential and school receptors.
- Proposed jack-and-bore pits shall be located as far from sensitive receptors as technically feasible.
- A designated liaison shall be responsible for responding to noise complaints during the construction phases of the CCWTF. The name and phone number of the liaison shall be conspicuously posted at construction areas and on all advance notifications. This person shall take steps to resolve complaints, including periodic noise monitoring if necessary. Results of noise monitoring shall be presented at regular meetings with the construction contractor, and the liaison shall coordinate with the construction contractor to modify, to the extent feasible, any construction activities that generate excessive noise levels.

Operations

Significance Determination: Less than Significant Impact with Mitigation.

The proposed CCWTF wastewater treatment facility would be located on approximately 4.8 acres at 24000 Civic Center Way. This facility would contain subsurface pumps. Although the exact type of pump has not been determined, for the purposes of this analysis, it is anticipated that a 150-horsepower pump would be used, which would produce a noise level of approximately 76 dBA at a distance of 50 feet (ESA 2002). Because 20 dBA is a conservative estimate of the noise reduction for underground pumps, the noise level would therefore be 56 dBA at a distance of 50 feet. Measured noise levels at the receiver location closest to the proposed wastewater treatment facility were 68 dBA. A noise level of this magnitude would exceed the noise level of the pumps. Therefore, pumps associated with the wastewater treatment facility would not be audible at the receiver location.

Nine pump stations would be constructed as part of the collection system for the CCWTF project. These would convey wastewater flows within the Civic Center area to the proposed wastewater treatment facility. Pump stations would be located along the pipelines at Legacy Park and Bluffs Park, belowground in Phase 1, and on public rights-of-way and/or easements in residential areas in Phases 2 and 3. The only aboveground features of the collection and distribution infrastructure would be the air release valves at high- or low-elevation points along the pipelines, the vent pipes at the pump stations, and the backup generators, transformers, switchboards/meters, and electrical panels. Noise generated at the pump stations would be minimal because the noise-producing equipment would be located in the subsurface vaults. Backup generators would be regularly tested and maintained in conformance with National Fire Protection Association Standard 110: Standard for Emergency and Standby Power Systems and Air Quality Management District. Additional refueling and generator testing would be performed as needed based on inspections by the City's contractor.

An unhoused, unmuffled 250-horsepower generator at a distance of 50 feet would generate a noise level of approximately 107 dBA Leq (Cummins Power Generation msp-1026g). Therefore, a noise level of this magnitude, while temporary and periodic, would be clearly audible at noise-sensitive receivers within the project area. However, self-contained sound-reducing enclosures would reduce noise levels to 73 dBA (Cummins Power Generation msp-1026g). Ambient noise

levels at sensitive receiver locations were measured at 68 dBA. Noise levels associated with an enclosed, muffled generator would exceed the measured ambient noise by 5 dB. An increase of this magnitude would be noticeable but would not exceed any of the City's thresholds. To ensure that noise from emergency generators does not exceed the City's thresholds, the CCWTF project would include MM NV-2, below.

Maintenance activities associated with the proposed wastewater treatment facility would include weekly inspection of the wells and quarterly cleaning as well as periodic lifting of the membranes every 2 to 3 months and replacing them every 8 to 10 years. Solids would be transported off-site once a day by truck and sent to the County Sanitation Districts of Los Angeles County Joint Water Pollution Control Plant.

Maintenance activities at the pump stations would include weekly inspections, with wet wells cleaned quarterly. Annual performance testing would also be required to verify meter calibration, calibrate pressure gauges, and sequence the pumps to operate under various flows. Preventive maintenance for mechanical and electrical equipment would be scheduled annually. Emergency power generators would be tested regularly and maintained in conformance with NFPA Standard 110.

Maintenance activities are not expected to cause significant increases in noise, with the exception of emergency generator testing, which was addressed earlier and would be mitigated by MM-NV-2.

Implementation of the CCWTF project would generate a very small number of vehicular trips on a daily basis. Up to three full-time employees would be required to operate the wastewater treatment facility. Although periodic maintenance would also require a small number of trips, the traffic volumes would not be noticeable. Therefore, impacts from traffic noise would be less than significant.

Noise from operation and maintenance of the CCWTF project would be less than significant after mitigation is included.

Mitigation Measure

- **NV-2: Emergency Generator Noise Reduction.** All emergency generators shall be housed and muffled with acoustically rated enclosures to reduce noise levels to the greatest extent possible.

Resource 9B: Will the Proposed Alternative expose persons to or generate excessive groundborne vibration or groundborne noise levels?

Construction

Significance Determination: Less than Significant Impact.

During construction of the proposed CCWTF wastewater treatment facility, pipelines (using conventional and jack-and-bore construction), and pump stations, vibration would occur as large pieces of construction equipment access and operate on the project site and along the pipeline alignment. FTA has compiled a list of typical vibration levels generated by various types of construction equipment. These are commonly referenced in construction vibration-level analyses.

Country

County Code sets a threshold of 0.01 inch per second for vibration. Vibration levels from construction of the proposed pipelines associated with the wastewater treatment facility would attenuate to levels below the threshold of perception. Furthermore, construction equipment used during pipeline construction would not be large enough to produce vibration that would exceed the County's threshold. Therefore, impacts would be less than significant.

City

The City has not established a vibration threshold; therefore, the County's threshold of 0.01 inch per second was used for the sake of consistency. The closest vibration-sensitive receiver to the proposed wastewater treatment facility would be approximately 150 feet from the construction site. Reference vibration levels at a distance of 25 feet from the vibration source ranging from 0.076 to 0.089 inch per second. Vibration levels at the closest receiver would attenuate up to 0.5 and 0.006 inch per second, respectively. Therefore, vibration levels would be well below the County's threshold of 0.01 inch per second. As stated earlier, construction equipment used during pipeline construction would not be large enough to produce vibration levels that would exceed the County's threshold of 0.01 inch per second. Impacts would be less than significant.

Operations

Significance Determination: No Impact.

Operation and maintenance of the Proposed Alternative would not produce noticeable vibration levels. No impact would occur.

Resource 9C: Will the Proposed Alternative result in a permanent increase in ambient noise levels in the Alternative vicinity, above existing levels?

Operations

Significance Determination: Less than Significant Impact.

As referenced in Resource 9A, the noise-producing components of the CCWTF would be installed below ground. Furthermore, the Proposed Alternative would not result in a significant increase in traffic compared with existing volumes. Therefore, a permanent increase in the ambient noise level is not expected, and impacts would be less thansignificant.

Resource 9D: Will the Proposed Alternative result in a substantial temporary or periodic increase in ambient noise levels in the groundwater basin, above existing levels?

Significance Determination: Potentially Significant Impact.

As referenced in Resource 9A, temporary noise increases would occur from construction of the proposed CCWTF wastewater treatment facility, pump stations, and pipeline network. Noise levels at the two closest receivers would increase by 1 and 3 dB, respectively, during construction of the waste water treatment facility. Noise levels at all other receivers would not exceed the existing ambient noise levels. Temporary noise increases associated with construction of the proposed pipeline network could be as high as 89 dBA, which would be a 21 to 36 dB increase above existing ambient noise levels. Furthermore, periodic testing of the emergency power generators associated with the pump stations would cause temporary increases in noise levels at

receivers located within the City. Based on current project plans, no need for pump stations has been identified within the County.

County

Sensitive receivers located within the County's jurisdiction would most likely be similar acoustically to receiver ST-3. The ambient noise level measured at receiver ST-3 was 53 dBA Leq. A temporary noise increase of 27 dB over the ambient conditions would be considered a substantial increase. As stated in Resource 9A, the County generally exempts construction, provided that it does not occur on weekdays between the hours of 7 p.m. and 7 a.m. or at any time on Sundays or holidays. However, the County requires mobile equipment not to exceed a maximum threshold of 75 dBA at single-family residential land uses. Because the increase over the existing ambient noise level is on the order of 36 dB and the calculated noise level exceeds the 75 dBA threshold, impacts would be considered significant and unavoidable.

City

Noise levels from construction of the proposed CCWTF wastewater treatment facility would exceed the ambient noise level at the two closest sensitive receivers by 1 to 3 dB, respectively. Temporary noise increases of this magnitude would be just at the threshold of perceptibility and therefore would not be considered substantial. Construction of the proposed pipeline along local roadways could cause a temporary noise increase ranging from 21 to 36 dB over existing ambient conditions. As stated in Mitigation Measure NV-1, the City exempts construction activity, provided that it does not occur on weekdays between the hours of 7 p.m. and 7 a.m., before 8 a.m. or after 5 p.m. on Saturday, or at any time on Sundays or holidays. In addition, the exposure to noise from pipeline construction would be for a relatively short duration at any individual sensitive receptor. However the temporary noise increase would be considered a substantial increase. Therefore, impacts associated withtemporary increases would be considered significant and unavoidable.

As discussed in Resource 9A, backup generators would need to be regularly tested and maintained in conformance with NFPA Standard 110. Additional refueling and generator testing would be performed as needed based on inspections by the City's contractor. An unhoused, unmuffled 250-horsepower generator at a distance of 50 feet would generate a noise level of approximately 107 dBA Leq (Cummins Power Generation msp-1026g). Therefore, a noise level of this magnitude, while temporary and periodic, would be clearly audible at noise-sensitive receivers within the Malibu treatment plant area. However, self-contained sound-reducing enclosures would reduce noise levels to 73 dBA (Cummins Power Generation msp-1026g). Ambient noise levels at the closest sensitive receiver location were measured at 68 dBA. Noise levels associated with an enclosed, muffled generator would exceed the measured ambient noise by 5 dB. An increase of this magnitude would be noticeable but would not exceed any of the City's thresholds. To ensure that noise from emergency generators does not result in a temporary substantial increase in noise levels does not exceed the City's thresholds, the Proposed Alternative would include MM NV-2, below.

Mitigation Measure

- Implementation of **Mitigation Measure NV-2** (see Resource 9A mitigation measures above).

Resource 9E: Will the Proposed Alternative be located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or working in the groundwater basin to excessive noise levels?

Significance Determination: No Impact.

The closest airport to the Malibu Civic Center area is Santa Monica Municipal Airport, located approximately 13 miles to the southeast. Therefore, the Recommended Alternative would not expose people to excessive noise associated with an airport. No impact would occur.

Resource 9F: Will the Proposed Alternative be located in the vicinity of a private airstrip and expose people residing or working in the groundwater basin to excessive noise levels?

Significance Determination: Less than Significant Impact.

The CCWTF project would not be located in proximity to any private airstrips. Although a few private helipads are located close to the project site, these helipads would not expose employees at the proposed wastewater treatment facility to excessive noise. Impacts would be less than significant.

6.3.10 Population

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to directly or indirectly result in population-related impacts as a result of implementation (construction and/or operation). Management actions contained in the Recommended Alternative, such as land use regulations, have the potential to indirectly result in population impacts in the MVGB.

Resource 10A: Will the Proposed Alternative induce substantial population growth in an area, either directly or indirectly?

Construction

Significance Determination: Less than Significant Impact.

On average, construction activities for all CCWTF Phase 1 facilities would require 30 to 35 workers on the project site at any one time. Workers would commute to the CCWTF project site over an estimated 18-month construction period for each phase of the project either from locations within the immediate area or in the surrounding communities. It is expected that few, if any, construction employees would relocate to the Malibu area. Construction activities associated with the CCWTF project would not directly or indirectly induce the development of new housing or businesses and therefore, construction impacts associated with the CCWTF project and the Recommended Alternative would be less than significant.

Operations

Significance Determination: Less than Significant Impact.

Direct Impacts

The Recommended Alternative contains one project (the CCWTF project) that would include the construction of a new centralized wastewater treatment facility that would treat the wastewater flows from properties in the Civic Center area and Prohibition Area that would no longer be served by on-site wastewater disposal systems. Operation of the CCWTF would require up to three full-time employees, which would not result in a need for new homes or businesses. Therefore, direct impacts would be less than significant, and mitigation would not be required.

Indirect Impacts

The CCWTF project has been proposed in response to adoption of Resolution No. R4-2009-007 by the LARWQCB, which prohibits discharges from OWDS in the Malibu Civic Center area. In addition, the CCWTF project aims to satisfy the City's obligations to the LARWQCB resolution and MOU, maximize the use of recycled water, minimize saltwater intrusion through the injection of highly treated effluent into the underlying groundwater basin, maximize percolation, and minimize costs to property owners.

Although the purpose of the Recommended Alternative is not to facilitate future growth and development, development of the proposed CCWTF wastewater treatment facility and associated pipelines and pump stations would accommodate future growth because property owners would not have to rely on septic systems, which currently may limit their ability to develop their property. However, any growth that would occur indirectly under the Recommended Alternative would be consistent with the City of Malibu General Plan and the density limitations of the City Zoning Code and LCP Land Use Plan. The City is concerned with managing growth to be consistent with the historically low growth rates in the City, as mentioned in Goal 2 of the City's General Plan Land Use Element. Current development density constraints on individual properties, as outlined in the City's General Plan Land Use Element, Zoning Code, and LCP Land Use Plan, would not change as a result of the Recommended Alternative. Furthermore, existing LCP Local Implementation Plan Sections 18.8 and 18.10 include requirements that package wastewater treatment facilities and community sewer facilities shall not have a service capacity that would exceed the amount of development allowed by the existing LCP development standards. Consequently, the Local Coastal Program Amendment included with the CCWRF project would add additional development standards specific to the project to ensure that buildout design capacity shall not exceed the amount of development allowed by the LCP. As a result, it is not likely that the Recommended Alternative would induce substantial population growth, and the indirect population impacts of the Recommended Alternative are expected to be less than significant. The portion of the Prohibition Area that is under unincorporated Los Angeles County jurisdiction consists of rugged undeveloped terrain and several homes that would be served by the CCWTF project under Phase 2. Based on the terrain, there is limited potential for additional development in the County's jurisdiction, with or without the Recommended Alternative. Therefore, less-than-significant indirect population impacts are expected within the County portions of the Prohibition Area.

6.3.11 Housing

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to directly or indirectly result in housing-related impacts as a result of implementation (construction and/or operation). Management actions contained in the Recommended Alternative, such as land use regulations, have the potential to indirectly result in housing-related impacts in the MVGB.

Resource 11A: Will the Proposed Alternative displace substantial numbers of existing housing or persons, necessitating the construction of replacement housing elsewhere?

Construction

Significance Determination: Less than Significant Impact.

Construction of the CCWTF project (the one project contained in the Recommended Alternative) would not directly displace housing or persons. The new wastewater treatment facility would be built on a CV-2-zoned parcel that is already developed with a wastewater treatment plant that serves a shopping center and other non-residential development. The collection and conveyance system would be built generally within street rights-of-way and easements, and would not require the displacement of housing or persons. No direct displacement impacts would occur, and no mitigation would be required.

Operations

Significance Determination: Less than Significant Impact.

Operation of this new wastewater infrastructure associated with the CCWTF project would not require the displacement of housing or persons. Therefore, no impacts related to a need for replacement housing would occur, and no mitigation would be required.

6.3.12 Public Services

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to directly or indirectly result in impacts to public services as a result of implementation (construction and/or operation). Management actions contained in the Recommended Alternative, such as land use regulations, have the potential to indirectly result in impacts to public services in the MVGB.

Resource 12A: Will the Proposed Alternative have an effect upon, or result in, a need for new or altered governmental services in fire protection?

Fire protection services within the City and adjacent unincorporated areas are provided primarily by LACFD. This includes both emergency and non-emergency fire protection services. Emergency services include fire response, emergency medical response, hazardous materials response, and public assistance. Non-emergency services include life-guarding services, fire and life safety inspections, building inspections, fire code investigations, code compliance, and public education.

The CCWTF project lies within the jurisdiction of Battalion 5, which consists of a total of 12 stations. Four LACFD fire stations (Station Nos. 70, 71, 88, and 99) provide fire protection services and are located within the City. However, all LACFD stations are available to serve the City if needed. In addition, the Ventura County Fire Department and the National Park Service are available indirectly to provide fire services to the City if needed.

Station No. 88, located at 23720 Malibu Road, serves the Civic Center area and has a three-person engine company and a two-person paramedic squad. The station is adjacent to the portion of the CCWTF project

site where the injections wells would be located. Its jurisdiction includes Malibu and the surrounding areas; therefore, the number of incidents and the response times for Station No. 88 are indicative of current conditions in the City and the areas immediately adjacent to Malibu; the average response time by LACFD to emergencies in the Civic Center area is less than five minutes.

The Civic Center area itself has an existing system of fire hydrants for use during firefighting activities. Water for LACFD fire service is supplied to the City from a pipeline and a reservoir facility operated by Los Angeles County Waterworks District 29.

Construction

Significance Determination: Less than Significant Impact.

Phase 1 of the CCWTF project construction is scheduled to last approximately 18 months. On average, construction activities associated with all CCWTF Phase 1 facilities would require 30 to 35 workers on the CCWTF project site at any one time. Given the large pool of construction workers within commuting distance of the Malibu area, it is unlikely that workers would choose to move to the Malibu area during the course of construction. Therefore, construction is unlikely to result in increased demand for services and require new or altered fire protection facilities to maintain acceptable service ratios, response times, or other performance objectives.

Emergency access to parts of the Civic Center area could be affected by construction. Temporary lane closures and construction-related traffic could delay or obstruct the movement of emergency vehicles. However, a traffic control plan would be required and implemented to ensure that emergency access and traffic flow in both directions would be maintained at all times during construction. The City would provide notice of construction activities that would affect access to emergency facilities, including adjacent County facilities. Any disruptions in access would be temporary and short term.

Operations

Significance Determination: Less than Significant Impact.

The Recommended Alternative does not include a residential component that would directly increase the residential population. Operation of the proposed wastewater treatment facility would require up to three full-time employees. Therefore, the CCWTF project would not directly result in an increased demand for public services due to increased residential or employee populations that would require the construction of new or altered fire facilities to maintain acceptable service ratios, response times, or other public facility performance objectives.

Indirect growth would be accommodated by the City's infrastructure improvements, which could increase the demand for fire protection services, though fire protection facilities already operate well within their service capabilities and are expected to handle any future growth. LACFD currently has no plans for future fire stations or additional equipment in the Malibu area; however, plans exist within the next 5 years for additional fire stations in other high-growth areas of the district, such as the Santa Clarita and Antelope Valley areas. In addition, Fire Station No. 71 is currently being remodeled to accommodate new equipment and dormitories and update the facility to modern standards.

Implementation of the CCWTF project would comply with all applicable code requirements related to construction, access, water mains, fire flows, and hydrants. Accordingly, as part of the CCWTF approval process, LACFD would review and approve all plans, including the Fuel

Modification Plan, to ensure compliance with applicable fire codes and standards, thereby minimizing the risk of increased operational fire hazards. Therefore, operation of the Proposed Alternative is not expected to result in significant fire protection service impacts.

Resource 12B: Will the Proposed Alternative have an effect upon, or result in, a need for new or altered governmental services in police protection?

LASD's Malibu/Lost Hills station provides all law enforcement services for the City and adjacent unincorporated areas. LASD is responsible for citizen protection, law enforcement, and crime prevention. Law enforcement services include patrol activities, traffic enforcement, accident analysis and investigation, parking enforcement, and general and special investigations. LASD is under contract to the City to provide law enforcement services, including municipal police services and transit policing.

LASD Region I's Malibu/Lost Hills station is located at 27050 Agoura Road in Agoura Hills. It serves the City (including the Proposed Alternative area) as well as Agoura Hills, Calabasas, Westlake Village, Hidden Hills, and the surrounding unincorporated areas of the County, including Chatsworth Lake Manor, Malibu Lake, Topanga, and West Hills. The station currently serves a population of 93,255 within a 178.6-square-mile area. Its full-time staff includes 162 employees, 133 of whom are sheriff's deputies who perform law enforcement, supervision, and management duties. In addition, Santa Monica College is planning to construct a satellite campus in the Civic Center area, near the Malibu Library. As part of these plans, an LASD substation would be constructed on the proposed satellite campus.

Construction

Significance Determination: Less than Significant Impact.

During Phase 1 construction of the CCWTF project, anticipated to last approximately 18 months, an average of 30 to 35 workers may be required on the project site at any one time. Given the large pool of construction workers within commuting distance of the Malibu area, it is unlikely that workers would choose to move to the Malibu area during the course of construction. Therefore, construction is unlikely to result in increased demand for services and require new or altered police facilities to maintain acceptable service ratios, response times, or other performance objectives.

Operations

Significance Determination: Less than Significant Impact.

The Recommended Alternative does not include a residential component that would directly increase the residential population, though indirect growth accommodated by the infrastructure improvements could increase the demand for police services. However, the law enforcement services described above generally operate well within their capacities and would be able to manage any increased service demands.

Operation of the CCWTF proposed wastewater treatment facility would require up to three full-time employees. Therefore, the CCWTF project would not directly result in an increased demand for public services due to increased residential or employee populations that would require the construction of new or altered facilities to maintain acceptable service ratios, response times, or other public facility performance objectives.

Resource 12C: Will the Proposed Alternative have an effect upon, or result in, a need for new or altered governmental services in schools?

The Santa Monica-Malibu Unified School District (SMMUSD) serves the City of Malibu. SMMUSD has a total student enrollment of 11,417 in 10 elementary schools (grades K through 5), three middle schools (grades 6 through 8), three high schools (grades 9 through 12), and one alternative school (grades K through 8). SMMUSD also provides preschool services and adult education programs (SMMUSD, 2013).

Local public schools that serve the Proposed Alternative area include Webster Elementary School, Point Dume Elementary School, Cabrillo Elementary School, and Malibu High School. Of these facilities, only Webster Elementary School is located within 1 mile of the wastewater treatment facility site (the school is located just north of Civic Center Way and the wastewater treatment facility site).

In addition to SMMUSD schools, four private schools are located in the City of Malibu. Of these four, one private school is located within 1 mile of the wastewater treatment facility site. Our Lady of Malibu Catholic Church and School (grades K through 8) is located adjacent to and west of Webster Elementary School. Other private schools within the City are St. Aidan's School, Malibu Leadership Academy, McKinna Learning Center, and Moreau Academy.

Construction

Significance Determination: No Impact.

During Phase 1 construction of the CCWTF project, expected to last approximately 18 months, an average of 30 to 35 workers may be required on the construction site at any one time. Given the large pool of construction workers within commuting distance of the Malibu area, it is unlikely that workers would choose to move to the Malibu area during the course of construction. Therefore, construction is unlikely to result in increased demand for schools.

Operations

Significance Determination: No Impact.

The Recommended Alternative (including the CCWTF project) does not include a residential component that would directly increase the residential population, though indirect growth accommodated by the infrastructure improvements could increase educational demand. The schools described above would be able to manage any increased demands.

Operation of the proposed CCWTF wastewater treatment facility would require up to three full-time employees. Therefore, the Recommended Alternative would not directly result in an increased demand for schools due to increased residential or employee populations that would require the construction of new or expanded facilities.

Resource 12D: Will the Proposed Alternative have an effect upon, or result in, a need for new or altered governmental services in parks and other recreational facilities?

Construction

Significance Determination: No Impact.

During Phase 1 construction of the CCWTF project, anticipated to last approximately 18 months, an average of 30 to 35 workers may be required on the CCWTF project site at any one time. Given the large pool of construction workers within commuting distance of the Malibu area, it is unlikely

that workers would choose to move to the Malibu area during the course of construction and are therefore unlikely to use nearby recreational facilities. Therefore, construction is unlikely to result in increased demand for or physical deterioration of parks and other recreational facilities.

Operations

Significance Determination: No Impact.

The Recommended Alternative does not include a residential component that would directly increase the residential population, though indirect growth accommodated by the infrastructure improvements could increase recreational demand. The existing recreation facilities would be able to manage any increased demands.

Operation of the proposed CCWTF wastewater treatment facility would require up to three full-time employees. Therefore, the CCWTF project would not directly result in an increased demand for recreation due to increased residential or employee populations that would require the construction of new or expanded facilities.

Resource 12E: Will the Proposed Alternative have an effect upon, or result in, a need for new or altered governmental services in the maintenance of public facilities, including roads?

Construction

Significance Determination: Less than Significant Impact.

During Phase 1 construction of the CCWTF project, expected to last approximately 18 months, an average of 30 to 35 workers may be required on the CCWTF project site at any one time. Given the large pool of construction workers within commuting distance of the Malibu area, it is unlikely that workers would choose to move to the Malibu area during the course of construction. Therefore, construction is unlikely to result in increased demand for maintenance of public facilities, including roads.

Operations

Significance Determination: Less than Significant Impact.

The Recommended Alternative (including the CCWTF project) does not include a residential component that would directly increase the residential population, though indirect growth accommodated by the infrastructure improvements could increase the demand for the maintenance of public facilities. However, no maintenance due to the CCWTF project or the management actions is anticipated at this point.

Operation of the proposed CCWTF wastewater treatment facility would require up to three full-time employees. Therefore, the CCWTF project would not directly result in an increased demand for maintenance services due to increased residential or employee populations.

Resource 12F: Will the Proposed Alternative have an effect upon, or result in, a need for new or altered governmental services in other governmental services?

Construction

Significance Determination: Less than Significant Impact.

During Phase 1 construction, anticipated to last approximately 18 months, an average of 30 to 35 workers may be required on the CCWTF project site at any one time. Given the large pool of construction workers within commuting distance of the Malibu area, it is unlikely that workers would choose to move to the Malibu area during the course of construction. Therefore, construction is unlikely to result in increased demand for other governmental services apart from those already discussed in the resources above.

Operations

Significance Determination: Less than Significant Impact.

The Recommended Alternative does not include a residential component that would directly increase the residential population, though indirect growth accommodated by the infrastructure improvements could increase the demand for the maintenance of public facilities. However, no other governmental services apart from those already discussed are anticipated at this point.

Operation of the proposed CCWTF wastewater treatment facility would require up to three full-time employees. Therefore, the CCWTF project would not directly result in an increased demand for other governmental services due to increased residential or employee populations.

6.3.13 Utilities and Service Systems

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to directly or indirectly result in impacts to utilities and service systems as a result of implementation (construction and/or operation). Management actions contained in the Recommended Alternative, such as land use regulations, have the potential to indirectly result in impacts to utilities and service systems in the MVGB.

Resource 13A: Will the Proposed Alternative result in a need for new systems, or substantial alterations to power or natural gas?

Southern California Edison (SCE) provides electricity to the City of Malibu. As one of the nation's largest electric utilities, SCE delivers power to more than 14 million people. Its service area of approximately 50,000 square miles spans central, coastal, and Southern California. Electricity in the Civic Center area is mostly provided by the Tapia Substation located on Cross Creek Road.

The Southern California Gas Company provides natural gas to the City of Malibu. The Southern California Gas Company is the nation's largest natural gas distribution utility, providing energy to 20.9 million consumers through 5.8 million meters in more than 500 communities. The company's service territory encompasses approximately 20,000 square miles of diverse terrain throughout central and Southern California, from Visalia to the Mexican border.

Significance Determination: Less than Significant Impact.

Construction of the CCWTF project (the one project in the Recommended Alternative) would require relatively minor amounts of energy, including electricity and fuel for construction equipment and worker alternative, over the course of the approximate 18-month construction period. As part of the CCWTF project operations, some private property owners would have to

install pumps in order to pump wastewater when the sewer line is located in a street at a higher elevation. Existing and projected energy supplies are expected to be adequate to accommodate this consumption of energy.

Operation of the proposed CCWTF wastewater treatment facility would consume electricity and natural gas on a daily basis and result in the consumption of an estimated 3.05 million kilowatt-hours of electricity and 221,920 British thermal units (BTUs) of natural gas annually at buildout. However, the potential energy demand would be somewhat offset by the production of recycled water locally instead of having to import water to the Malibu area. The emergency power generators associated with the CCWTF project would also consume fuel as a result of regular testing and maintenance, which would be conducted in conformance with National Fire Protection Association standards and South Coast Air Quality Management District regulations. Additional refueling and testing operations of the generators would be as needed based on inspections by the City's contractor. This increase in energy usage due to operation of the CCWTF system is not expected to require additional off-site energy infrastructure or an increase in local or regional supplies to meet the increased demand. Therefore, no significant energy impacts are expected to occur as a result of construction and operation of the CCWTFproject.

Resource 13B: Will the Proposed Alternative result in a need for new systems, or substantial alterations to communication systems?

Significance Determination: Less than Significant Impact.

Communications in the Malibu area are provided by a number of providers, including AT&T, Comcast/Xfinity and Verizon. Neither construction of the CCWTF project (the one project in the Recommended Alternative) nor its operation would require the need for new systems or substantial alternations to the existing communication systems in the Malibu area. Therefore, no significant communication impacts are expected to occur as a result of construction and operation of the CCWTF project.

Resource 13C: Will the Proposed Alternative result in a need for new systems, or substantial alterations to water?

Water is conveyed (or retailed) to the City of Malibu by Los Angeles County Waterworks District No. 29 (District 29), with wholesale supplies purchased from West Basin Municipal Water District (West Basin). West Basin, in turn, imports its supplies predominantly from the Metropolitan Water District of Southern California (MWD), though has more recently increased development of local supplies to address concerns about future supply reliability. MWD, in turn, obtains its water from the State Water Project and the Colorado River. According to the California Energy Commission, water-related energy use resulting from the transportation, treatment, and heating of water accounts for nearly 20 percent of the State's total electricity consumption.

District 29 currently supplies water to the City; unincorporated portions of the County, including Topanga Canyon and portions of Marina Del Rey. The City's water service area comprises a narrow strip along the coastline, bounded on the north by the Santa Monica Mountains, on the east by Topanga Canyon, on the west by Ventura County, and on the south by the Pacific Ocean. District 29 occupies an area of approximately 47 square miles and has served the Malibu area since 1967 (Los Angeles County Department of Public Works 2005). According to the District 29 2010 Urban Water Management Plan, in 2010, District 29 served an estimated population of 31,229 through approximately 7,790 active meters. The District projects a total demand of 10,200 acre-feet (AF) of water in 2020 and 12,060 AF in 2035. The

District anticipates having adequate supply through 2035 with a surplus of approximately 9 percent during normal weather years (LACWD 2011).

Average daily water usage in the Prohibition Area is estimated to be between approximately 629,000 and 634,000 gallons per day (gpd), depending on the season (RMC 2013). In addition, several facilities within and surrounding the Prohibition Area utilize recycled water for a majority of their non-potable water supply. Pepperdine University, for example, uses treated wastewater from the Malibu Mesa Treatment Plan for on-campus recycled water. Because of the City's LCP requirements for drought-tolerant plantings, landscape irrigation demands are low. However, City landscape irrigation demand could potentially be as high as 148,700 gallons per day.

Significance Determination: Less than Significant Impact.

Water is likely to be used during construction of the CCWTF project to prevent dust from becoming airborne, clean construction equipment, mix concrete, or meet other construction-related needs. Water use during the construction phase would be short term, and would cease with the completion of construction. Construction is expected to take approximately 18 months, beginning in 2015. Construction of the wastewater treatment facility, pump stations, pipelines, and injection wells would occur concurrently. Pump station construction would require about nine months; construction of the wastewater treatment facility would require the entire 18-month construction period. Infrastructure associated with Phase 1 of the raw wastewater collection and treated effluent distribution pipeline systems would be constructed and completed by November 2015, according to the LARWQCB compliance schedule, though the actual completion date may be up to a year later. Construction activities would not require additional water treatment facilities, supplies, or entitlements and all construction-related water demands would cease upon construction completion. Therefore, no significant impacts would occur during construction.

Once operational, the CCWTF project would treat a buildout wastewater flow of 507,000 gpd, with a portion of the Title 22 treated effluent being disposed through landscape irrigation and the remainder by deep well injection into the lower Civic Center Gravels of the Malibu Groundwater Basin to protect against seawater intrusion. The project would supply recycled water for landscape irrigation purposes, which would greatly exceed the amount of potable water consumed by CCWTF restroom or laboratory facilities at the treatment plant site. Beyond restroom and laboratory processes, no potable water is used for the treatment process. Therefore, the operational impacts of the CCWTF project would be less than significant and potentially beneficial, in terms of conserving water supply and in reducing the demand for energy consumption. In addition, as described in the District No. 29 2010 Urban Water Management Plan, the District anticipates having adequate water supply to meet projected demands in the City of Malibu through year 2035 with a surplus of approximately 9 percent of supply during normal years.

Resource 13D: Will the Proposed Alternative result in a need for new systems, or substantial alterations to sewer or septic tanks?

There is currently no municipal sewer in the City of Malibu or the neighboring unincorporated portions of the county because most wastewater is treated and disposed of on-site throughout the MVGB. The City of Malibu Wastewater Management Program administers permitting, plan review, and oversight programs for OWDSs. Wastewater generated from OWDSs, commonly known as septic systems, is a concern to the LARWQCB as a potential source of pollutants for the Malibu Creek watershed, including

Malibu Creek, Malibu Lagoon, and nearby beaches. These water bodies have been identified by the LARWQCB as being impaired for beneficial uses and are listed as 303d Impaired Water Bodies under the Clean Water Act.

It is estimated that the Prohibition Area currently produces approximately 331,000 gpd of wastewater, which is handled by existing OWDSs (RMC, 2014).

Significance Determination: Less than Significant Impact.

The Recommended Alternative includes one project, the CCWTF project that includes the construction of a new centralized wastewater treatment facility that would treat wastewater flows from properties in the Civic Center area that would no longer be allowed to discharge to OWDSs. The CCWTF project would satisfy the requirements of LARWQCB Resolution No. R4-2009-007, entitled *Amendment to the Water Quality Control Plan for the Coastal Watersheds of Ventura and Los Angeles Counties to Prohibit On-Site Wastewater Disposal Systems in the Malibu Civic Center Area*. This Resolution amended the Basin Plan to prohibit any new discharges from OWDSs as of the effective date; requires the cessation of all commercial discharges from OWDSs on November 5, 2015; and mandates the cessation of all residential discharges from OWDSs on November 5, 2019.

In addition, as each phase is completed, properties to be served by the CCWTF wastewater treatment facility would decommission their existing OWDSs, a process that would require additional compliance with RWQCB standards and City Plumbing Code Section H 11.0 et seq. requirements for proper decommissioning. Through the LCP amendment and the sewer connection permitting process the City would develop, the City would ensure that private OWDS decommissioning complies with these standards and requirements.

As each phase of CCWTF construction is completed, individual properties would be required make connections to the sewer pipelines. Construction associated with these connections would require minor excavation, which may result in minor environmental effects. Impacts related to private sewer connections would be evaluated individually as part of the City's permitting process and all sewer connections would comply with LCP and City Municipal Code requirements.

Resource 13E: Will the Proposed Alternative result in a need for new systems, or substantial alterations to stormwater drainage?

There are no stormwater drainage systems on the proposed CCWTF wastewater treatment facility site though stormwater from the site tends to collect in a drainage feature associated with Winter Canyon Creek, which is located just south of the site and flows under PCH and eventually to the Pacific Ocean. Generally, stormwater runoff generated within the Prohibition Area drains into City streets where it is directed toward the existing storm drains that serve those areas.

Significance Determination: Less than Significant Impact.

The CCWTF project would include construction of a new centralized wastewater treatment facility that would treat wastewater flows from properties in the Civic Center area that would no longer be served by OWDSs, along with a wastewater collection system and a recycled water distribution system. Proposed construction and operation would not require the construction of stormwater drainage facilities or expansion of existing facilities, other than minor improvements to drainage facilities on and nearby the site of the proposed wastewater treatment facility as grading at the treatment facility site would direct stormwater runoff to centralized collection points from which

it would be pumped back to the headworks for treatment. Construction of the CCWTF treatment facility would also result in the installation of a sidewalk along the south side of Civic Center Way. A curb and gutter system would be constructed as part of the sidewalk installation, directing stormwater runoff to an existing 84-inch diameter stormwater pipeline via an existing inlet on Civic Center Way. Improvements would be made to this inlet as part of the facility construction. Existing stormwater drainage facilities along roadways affected by pipeline construction would not be altered under any phase of the CCWTF project. Construction of pipelines would require some alterations to drainage flows within the roadways, but these alterations would be minor and temporary.

The Recommended Alternative, including the planned management actions its contains, would comply with City of Malibu regulations and guidelines pertaining to stormwater runoff, including requirements imposed by the construction general NPDES permit and Malibu LCP. Specifically, the Proposed Alternative would comply with City of Malibu Stormwater Ordinance No. 157 (Chapter 13.04 of the MMC) and Section 17.4 of the LIP, which requires all projects to implement an SWMP. The SWMP would identify permanent site design, source control, and structural or treatment control BMPs in accordance with Section 17 of the LIP. The design elements of the SWMP would be incorporated as part of the grading and drainage plan to ensure that the elements would be constructed properly. Compliance with City regulations would ensure that no significant impact would occur.

Resource 13F: Will the Proposed Alternative result in a need for new systems, or substantial alterations to solid waste and disposal?

Solid waste disposal in the City of Malibu is handled by four private hauling companies, one of which is under contract to the Los Angeles County/Malibu Garbage Disposal District. All four haulers deliver solid waste to the Calabasas Landfill, which is owned and operated by the Los Angeles County Sanitation District. The Calabasas Landfill is currently well below its historical average tonnage for incoming waste. According to an initial study/mitigated negative declaration prepared by the Sanitation Districts of Los Angeles County for the Calabasas Landfill in May 2013, the landfill currently receives an average of 600 tons per day (tpd) of solid waste. Historically, the average was 1,500 tons per day or more.

A proposed modification to the Los Angeles County Wasteshed ordinance (No. 91-0003) pertaining to the landfill would allow up to 1,830 tpd of solid waste, including waste from sources outside the wasteshed area, provided the total tonnage received at the site remains below the permitted 3,500 tpd, using a six-day average. This would increase daily capacity and increase the service area for the landfill. The Prohibition Area and the City of Malibu are both included in the service area of the Calabasas Landfill.

Significance Determination: Less than Significant Impact.

As previously stated, the City of Malibu is serviced by the Calabasas Landfill, which is currently well below its historical average for incoming waste. According to an initial study/mitigated negative declaration prepared by the Sanitation Districts of Los Angeles County for the Calabasas Landfill in May 2013, the landfill currently receives an average of 600 tpd of solid waste, although historically, the average was greater (1,500 tpd or more). The landfill is currently in the process of modifying its waste disposal contracts, which would increase its daily intake to up to 1,830 tpd of solid waste and include sources outside the wasteshed area. This would increase daily capacity and increase the service area for the landfill. Because no significant structure demolition is proposed during construction of the CCWTF project and some recycling of construction debris (e.g., used asphalt) is likely to occur in accordance with City policy, the impact due to construction

of the CCWTF project on existing landfill capacity would be minor and incremental. Once the treatment facility is operational, it is anticipated that four to six tanker trucks per week would be required under buildout conditions to haul sludge material from the treatment facility to either the Hyperion Treatment Plant in the City of Los Angeles or another suitable permitted facility for disposal. Consequently, construction and operation of the Proposed Alternative would be accommodated by the permitted capacity of existing disposal facilities, and no significant impacts would occur.

The Recommended Alternative would comply with all federal, state, and local statutes related to solid waste, including Assembly Bill (AB) 939. This would include compliance with the City of Malibu Solid Waste Management Program, which includes a commercial and multifamily recycling program to maintain the goals of AB 939. As such, no significant impacts would occur as a result of the Proposed Alternative.

6.3.14 Recreation

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to directly or indirectly result in recreation-related impacts as a result of implementation (construction and/or operation). Management actions contained in the Recommended Alternative, such as land use regulations, have the potential to indirectly result in recreation-related impacts in the MVGB.

Resource 14A: Will the Proposed Alternative result in impact upon the quality or quantity of existing recreational opportunities?

Construction

Significance Determination: No Impact.

On average, it is expected that all CCWTF Phase 1 facilities would require 30 to 35 workers on the project site at any one time. Given the small number of workers and their limited opportunities to use nearby recreational facilities during their break times, it is not expected that local park and recreational facilities would experience a substantial increase in use or physical deterioration as a result of the CCWTF project during the approximate 18-month constructionperiod.

Operations

Significance Determination: No Impact.

The CCWTF project would employ a total of up to three full-time employees. The Recommended Alternative does not include a residential or commercial development component and, consequently, would not directly result in a substantial increase in residential or employee populations in the Malibu area. Therefore, the Recommended Alternative would not directly result in a significant increase in the use of local parks or substantial physical deterioration of park facilities. Development of the proposed CCWTF wastewater treatment facility and collection and distribution system would, however, accommodate planned future growth because property owners would not have to rely on septic systems for their wastewater needs, which currently may limit the property owners' ability to develop their properties because of the septic discharge prohibition in the LARWQCB's Basin Plan amendment. Growth that would indirectly occur under the Recommended Alternative would be consistent with the City of Malibu General Plan, LCP and the density limitations of the City Zoning Code.

It should also be noted that the CCWTF project is intended to end septic tank discharge and improve local drainage and water quality in the City of Malibu through development of a centralized wastewater treatment system, which would serve the Civic Center area. The CCWTF project aims to maximize reuse of recycled water and minimize saltwater intrusion into the groundwater basin with injection of highly treated effluent to support basin plan designation. Generally, these improvements are anticipated to improve water quality in Malibu Lagoon and along surrounding beaches, thereby improving the recreational experience for beach users. Development of a centralized wastewater treatment facility in the Civic Center area of the City would reduce adverse water quality impacts on Malibu Creek, Malibu Lagoon, and along nearby beaches and result in a potentially beneficial impact on local recreational areas associated with these water bodies.

Resource 14B: Will the Proposed Alternative include recreational facilities or require the construction or expansion of recreational facilities, which might have a substantial adverse physical effect on the environment?

Construction

Significance Determination: Less than Significant Impact.

The CCWTF project would develop a wastewater treatment facility, a collection system to convey wastewater to the facility, and a distribution system to distribute treated effluent (recycled water) to various land uses for reuse purposes. In addition, groundwater injection wells would be used to protect the groundwater basin against seawater intrusion. The CCWTF project would not include the development of park or recreational facilities. However, Phase 1 of the project would include pump stations, which would be located in two City parks, Legacy Park and Malibu Bluffs Park. Construction at each park facility would take place over approximately 6 months. The pump stations would occupy a relatively small footprint and would be located mostly belowground. At Malibu Bluffs Park, the proposed pump station vent would be located on the north side of the parking lot, with the associated generator, electrical panel, transformer, and meter located nearby on land that is not actively used for recreation or habitat. Construction of these facilities would not disrupt recreational activities at the park or otherwise require replacement or expansion of new recreational facilities. At Legacy Park, the pump station facilities would be located on a strip of landscaped land adjacent to the Civic Center Way parking stalls, across the street from the library. Construction of these facilities would result in a disruption to existing parking but would not adversely conflict with recreational activities at the park. There is ample parking available for both park facilities, and the temporary disruption to parking in both cases would not require new or expanded parking facilities to serve park users adequately. Access to these park and recreational facilities could be affected by construction due to temporary lane closures and construction-related traffic delays. However, a traffic control plan would be required and implemented to ensure that traffic flow in both directions would be maintained at all times during construction. The City would provide notice of construction activities that would affect access to park and recreational facilities. Any disruptions in access would be temporary and short term. Consequently, no significant park and recreational facility impacts are anticipated as a result of the Recommended Alternative duringconstruction.

Operations

Significance Determination: Less than Significant Impact.

As discussed above, the pump station facilities would be located within the Malibu Bluffs Park parking lot and within a landscaped area along the northern edge of Legacy Park. Beyond some minor visual changes at both park locations, these facilities would not disrupt recreational activities at these parks. Parking would not be permanently displaced at either facility as a result of the proposed pump stations. Accordingly, construction and operation of the CCWTF project would not require the replacement of any park or recreational facilities. Furthermore, the pump stations and collection and distribution pipelines that would be sited in Malibu Bluffs Park and Legacy Park would be consistent with the LCP and park zoning after approval of the LCP amendment and zoning text amendment, which will include these facilities as conditionally allowed under the LCP. The CCWTF project would employ a total of up to three full-time employees. It does not include residential or commercial development components. Therefore, the project would not directly increase the demand for park and recreational facilities in the Malibu area and, consequently, would not require the construction or expansion of recreational facilities to meet increased demand.

Additionally, as previously described, three injection wells would be located along Malibu Road and used as part of CCWTF operations. Based on current well design, the injection wells would not impact parking along Malibu Road. However, should bump outs be required as part of the injection well design, approximately four to six parking spaces would be removed. This would not disrupt parking for any coastal recreational uses because there are hundreds of parking spaces in the vicinity (on street and at parks) and because no public accessways or parks are located within a walking distance of approximately ½ mile. Therefore, no significant impact to parking for coastal access would occur.

As discussed above, development of the proposed CCWTF wastewater treatment facility and collection and distribution system would allow for removal of existing septic systems. However, any growth that would indirectly occur under the Recommended Alternative would be consistent with the City of Malibu General Plan and the density limitations of the City Zoning Code. Consequently, the Recommended Alternative would not indirectly increase the demand for park and recreational facilities in the Malibu area. Therefore, no significant park and recreational facility impacts are anticipated as a result of the Recommended Alternative.

6.3.15 Energy/GHG Emissions

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to directly or indirectly result in energy and/or GHG emissions-related impacts as a result of implementation (construction and/or operation). Management actions contained in the Recommended Alternative, such as land use regulations, have the potential to indirectly result in energy and/or GHG emissions-related impacts in the MVGB.

Resource 15A: Will the Proposed Alternative result in the use of substantial amounts of fuel or energy?

Significance Determination: Less than Significant Impact.

Construction of the CCWTF project would require relatively minor amounts of energy, including electricity and fuel for construction equipment and worker alternative, over the course of the approximate 18-month construction period. As part of CCWTF project implementation, some private property owners would have to install pumps in order to pump wastewater when the

sewer line is located in a street at a higher elevation. Existing and projected energy supplies are expected to be adequate to accommodate this consumption of energy.

Operation of the proposed CCWTF wastewater treatment facility would consume electricity and natural gas on a daily basis and result in the consumption of an estimated 3.05 million kilowatt-hours of electricity and 221,920 BTUs of natural gas annually at buildout. However, the potential energy demand would be somewhat offset by the production of recycled water locally instead of having to import water to the Malibu area. The emergency power generators associated with the CCWTF project would also consume fuel as a result of regular testing and maintenance, which would be conducted in conformance with National Fire Protection Association standards and South Coast Air Quality Management District regulations. Additional refueling and testing operations of the generators would be as needed based on inspections by the City's contractor. This increase in energy usage due to operation of the CCWTF project is not expected to require additional off-site energy infrastructure or an increase in local or regional supplies to meet the increased demand. Therefore, no significant energy impacts are expected to occur as a result of construction and operation of the Proposed Alternative.

Resource 15B: Will the Proposed Alternative result in the substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?

Significance Determination: Less than Significant Impact.

As described in Resource 15A above, the Recommended Alternative does not require a substantial increase in energy demand or require the development of new sources of energy.

Resource 15C: Will the Proposed Alternative result in the generation of GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Significance Determination: Less than Significant Impact.

Construction of the CCWTF project would generate GHG emissions through on-site use of heavy-duty construction equipment and off-site vehicle trips made by construction workers as well as haul/delivery trucks that would travel to and from the Malibu site. Mobile-source emissions would result from the use of construction equipment, including, but not limited to, graders, scrapers, bulldozers, wheeled loaders, and cranes. Construction of the CCWTF project would be completed in phases, with each of the three phases taking 18 months to complete.

Operation of CCWTF facilities is expected to result in GHG emissions related to the treatment, aeration, and pumping of wastewater and recycled water. In addition, there would be approximately 23 vehicle trips per week during full buildout operation for regular staffing, waste disposal, and inspections, with more vehicle trips occurring for weekly, monthly, and annual maintenance services. Area-source GHG emissions from the influent pump station, headworks, and equalization basin would be captured and filtered through an organic media bed, which would remove volatile organic compounds. As such, these emissions would be negligible. Once the treatment facility begins accepting wastewater and OWDSs are decommissioned, pumping of OWDSs would no longer be required, partially offsetting the increase in GHG emissions anticipated. In addition, the use of locally treated wastewater for irrigation instead of imported water is likely to reduce GHG emissions associated with the production and conveyance of imported water.

For the purpose of determining whether or not GHG emissions from the CCWTF project are significant, direct and indirect emissions from short-term construction activity and long-term operations activity are quantified. Construction emissions are amortized over the life of the alternative, defined as 30 years, and added to the operation-period emissions, per SCAQMD guidance (SCAQMD 2008). The CCWTF project's annual GHG emissions are estimated to be 1,132 MT of CO2e. These estimates reflect emissions from all construction and operation activities. As noted earlier, statewide CO2e emissions for 2011 were estimated to be 448.11 million MT. Additionally, the CCWTF project's annual GHG emissions are less than the SCAQMD's proposed threshold of 3,000 MTons for commercial projects as a measure of significance. As a consequence, the impact of the CCWTF project's GHG emissions, would be less thansignificant.

Resource 15D: Will the Proposed Alternative conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Significance Determination: Less than Significant Impact.

AB 32 identified a 2020 target level for GHG emissions in California of 427 million MT of CO2e. To achieve this GHG reduction target, there will have to be widespread reductions in GHG emissions across California. Some of these reductions will need to come in the form of changes in vehicle emissions and mileage standards, changes in the sources of electricity, and increases in energy efficiency by existing facilities. The remainder will need to come from requiring new facility development to have a lower carbon intensity than "business as usual" conditions. Therefore, this analysis uses a threshold of significance thatis in conformance with the state's goals.

On December 12, 2008, CARB adopted the AB 32 Scoping Plan, which details GHG emissions reduction measures that target specific GHG sources. Although none of the scoping plan measures are applicable to the Recommended Alternative, nevertheless, related GHG emissions would be reduced as a result of several AB 32 Scoping Plan measures. The scoping plan considers a range of actions that include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms (e.g., a cap-and-trade system). Some examples include thefollowing:

- Mobile-source GHG emissions reductionmeasures:
  - Pavley emissions standards (19.8 percentreduction)
  - Low-carbon fuel standard (7.2 percentreduction)
  - Vehicle efficiency measures (2.8 percentreduction)
- Energy production–related GHG emissions reductionmeasures:
  - Natural gas transmission and distribution efficiency measures (7.4 percent reduction)
  - Natural gas extraction efficiency measures (1.6 percent reduction)
  - Renewables (electricity) portfolio standard (33.0 percentreduction)

These reductions in mobile-source and energy-production GHG emissions would occur in addition to the City-specific sustainability goals identified in the City of Malibu General Plan, which would have a GHG emissions reduction co-benefit.

In summary, the Recommended Alternative would not interfere with any AB 32 Scoping Plan measures, nor be inconsistent in any way with the AB 32 goal of reducing state-wide GHG emissions. In addition, the Recommended Alternative would further City of Malibu conservation policies, which have the co-benefit of reducing GHG emissions. As such, the Recommended

Alternative would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions ofGHGs.

Resource 15E: Will the Proposed Alternative expose property and persons to the physical effects of climate change, including but not limited to flooding, public health, wildfire risk, or other impacts resulting from climate change?

Significance Determination: Less than Significant Impact.

The MVGB would be subject to climate change impacts resulting from past, present, and future GHG emissions regardless of the success of local, state, national, or international efforts in reducing future GHG emissions; this is because of the existing concentrations of GHG emissions in the atmosphere and the inevitable additional emissions that will be generated before GHG reductions plans are effective.

As mentioned earlier, potential climate change impacts in California include, but are not limited to, sea level rise, extreme heat events, increased energy consumption, increase in infectious diseases and respiratory illnesses, reduced snowpack and water supplies, increased water consumption, and potential increase in wildfires. The climate change impact of greatest concern to the Proposed Alternative is the potential for sea level rise. Sea level rise estimates from the National Research Council (NRC) 2012 report entitled Sea Level Rise for the Coasts of California, Oregon and Washington: Past, Present and Future were used to evaluate the potential impacts of sea level rise on the City of Malibu. This analysis is detailed in Appendix I of the CCWTF EIR (see Appendix C of this SED).

According to the analysis, sea level rise may have significant impacts on the shoreline infrastructure of the City of Malibu. However, in all cases examined using the NRC's sea level rise projections, the CCWTF facility would be located outside the zone of influence as are related pipelines, pump stations and tanks in upland areas. Related infrastructure located close to the shoreline, Malibu Lagoon and south of Pacific Coast Highway, including subsurface pipelines and pump stations and the injection wells and associated facilities, would be at potential risk of impacts from sea level rise. To mitigate these impacts, the City would implement an adaptive management approach to addressing sea level rise for all its infrastructure (including, but not limited to, that which will be in place as a result of the CCWTF project) and would utilize a planned retreat approach to managing anticipated impacts on its future injection well system, including identification of additional possible injection locations within the Civic Center area. Groundwater elevations would be monitored before and during CCWTF project implementation as part of permit requirements. In addition, Malibu Creek and Lagoon stage (elevation) data would continue to be monitored as part of existing programs. These data would provide the City with the information necessary to determine if any City infrastructure may be at risk from sea level rise and/or if infrastructure performance is at risk. These periodic analyses of data will provide the City with the tools and methods necessary for making adaptive management decisions. As such, the Recommended Alternative would not result in a significant exposure of property or persons to the potential effects of climate change. This impact is considered to be less thansignificant.

6.3.16 Transportation/Circulation

The Recommended Alternative only contains one project (the CCWTF project) that has the potential to directly or indirectly result in transportation-related impacts as a result of implementation (construction and/or operation). Management actions contained in the Recommended Alternative, such as land use regulations, have the potential to indirectly result in transportation-related impacts in the MVGB.

Resource 16A: Will the Proposed Alternative result in the generation of substantial additional vehicular movement?

Construction

Significance Determination: Potentially Significant Impact.

Construction of the CCWTF project (the one project contained in the Recommended Alternative) would result in additional traffic in the Civic Center area due to an increase in trips for construction workers travelling to the area, and trucks bringing construction materials and equipment. In addition, heavy trucks would be used to haul excavated soil adding additional traffic to local roadways. Construction of the collection and distribution system under each phase of the CCWTF project involves installation of below ground pipes within existing roadway. As a result, temporary traffic impacts can would be expected throughout the Civic Center area during periods of pipeline installation as portions of roadway would be excavated and construction equipment would be present within the roadway. However, the Traffic Control Plan that would be prepared and implemented as part of the CCWTF project would require the following:

- Provisions for maintaining access to all properties along roadways affected by pipeline construction including providing trench covers to allow cars to move freely during non-construction periods;
- Plans for maintaining traffic flow on roadways where temporary lane closures are necessary, and the requirement that at least one lane in each direction remains open at all times during construction;
- Designated haul routes that minimize traffic on local streets;
- Limits on or specialized hours for truck deliveries and construction along Civic Center Way and Winter Canyon Road so as to avoid hours when students are arriving and departing from Webster Elementary School and Our Lady of Malibu School;
- Provisions for maintaining pedestrian and bicycle safety, including any special conditions needed to ensure safety at the crosswalk on Civic Center Way just north of the treatment facility site;
- Coordination with facility owners or administrators of sensitive land uses such as schools, churches, and condominiums, including advance notification of timing, location and duration of construction activities and locations of any detours or lane closures.
- Requirements for notification of emergency service providers, and provision for emergency access; and
- Provision for construction worker parking that would not reduce availability of parking.

Implementation of the proposed Traffic Control Plan would ensure that temporary construction impacts to traffic would be less than significant. To ensure the efficacy of the proposed Traffic Control Plan, the mitigation measure TRANS-1 shall be enforced by the City.

Mitigation Measure

- **TRANS-1: Traffic Control Plan.** To the greatest extent possible, the City shall coordinate the Traffic Control Plan and construction of projects that are scheduled to be constructed in the Civic Center area or along PCH within 1 mile of the Civic Center area. If related projects are anticipated to be constructed concurrently with the CCWTF project within the Civic Center area or along PCH within 1 mile of the Civic Center area, the City shall provide the Traffic Control Plan to the related project's

proponent or other responsible entity and receive additional input from the proponent or responsible entity on potential construction haul routes and timing. The Traffic Control Plan will also be coordinated with school traffic patterns via consultation with the Santa Monica-Malibu Unified School District and Our Lady of Malibu representatives. Prior to finalization and approval of the Traffic Control Plan by the City and prior to the commencement of construction, the Traffic Control Plan shall be reviewed by LACFD and LASD.

Operations

Significance Determination: Less than Significant Impact.

At buildout, operation of the CCWTF project would result in a negligible increase in the number of trips to the Civic Center area. The wastewater treatment plant would require two trips per day by employees of the facility, one truck per day for solids removal, four truck trips per week for screening/grit pickup and chemical deliveries, plus an additional four to six trips over the course of a year for routine inspection and maintenance. Pump stations and pipelines would be periodically inspected, requiring, at most, one trip per week. This small increase in the number of vehicle trips would not require a City traffic impact analysis to be prepared, and the associated traffic impacts would be considered negligible. Routine removal of solids would require a single 5,000-gallon truck per day, which is comparable to existing solids removal activities at the site for the existing privately owned and operated wastewater treatment facility operations on the proposed treatment plant site. Though an increase from two trips per week to two trips per day would result from the operation of the CCWTF project, this increase is too small to make any noticeable difference in localtraffic.

Resource 16B: Will the Proposed Alternative result in effects on existing parking facilities, or demand for new parking?

Significance Determination: Less than Significant Impact.

The on-site parking at the proposed CCWTF wastewater treatment facility is more than enough to handle parking for the wastewater treatment plant employees, solids removal truck, and the more infrequent screening/grit pickup, chemical deliveries, and routine inspection and maintenance.

Maintenance of the proposed injection wells would occur every 5 to 7 years, resulting in approximately 100 feet of one lane as well as on-street parking along Malibu Road to be unavailable for up to 1 month. These maintenance activities would be scheduled so as to limit the length of time for lane and parking closures to the greatest extent possible. In addition, injection well maintenance would be scheduled during periods with the lowest volume of beach visitor traffic (e.g., outside of summer months) to limit the impact on available parking and traffic. The City would notify local residents in advance of any maintenance activities along Malibu Road. Accordingly, a less-than-significant parking impact would result from operation of the CCWTF project.

Resource 16C: Will the Proposed Alternative result in substantial impact upon existing transportation systems?

Pacific Coast Highway, Civic Center Way, Malibu Canyon Road, Malibu Road, Cross Creek Road, and Stuart Ranch Road/Webb Way provide primary access within the Prohibition Area.

PCH is a state route (State Route 1) that traverses the City in an east-west direction adjacent to the south side of the proposed treatment plant site. Within the City, PCH is four lanes, includes a Class III bicycle lane, and is designated as a modified major arterial (City of Malibu 1995). Traffic volume is approximately 46,591 Average Daily Trips (ADT) at its intersection with Cross Creek Road (City of Malibu,2012).

Civic Center Way is a two-lane east-west collector roadway that borders the wastewater treatment plant site on the north. Civic Center Way connects to Malibu Canyon Road to the west, Cross Creek Road to the east, and includes a short tight U-turn "onramp" connection for eastbound traffic onto westbound PCH adjacent to the wastewater treatment plant site. Civic Center Way provides access to Winter Canyon Road, which is the primary means of access to two schools (Our Lady of Malibu School and Webster Elementary School), a church (Our Lady of Malibu Catholic Church), and three condominium communities, and is a relatively high speed road with a narrow cross section. A cross walk and stop light at the intersection of Winter Canyon Road and Civic Center Way allows pedestrians to cross to the south side of Civic Center Way to the existing bus stop. Civic Center Way is estimated to carry 5,082 ADT between Webb Way and Cross Creek Road (City of Malibu, 2012).

Malibu Canyon Road is designated a north-south arterial roadway that extends from PCH across the Santa Monica Mountains National Recreation Area (SMMNRA) north to the Ventura Freeway (Highway 101) (as Las Virgenes Road). Malibu Canyon Road generally has one lane in each direction north of Civic Center Way. Two lanes in each direction are provided between PCH and Civic Center Way, with the road narrowing to two lanes northeast of Civic Center Way. Near Mulholland Highway, Malibu Canyon Road becomes Las Virgenes Road, which connects with Highway 101 three miles to the north to provide regional access to communities along Highway 101. Malibu Canyon Road carries approximately 9,400 vehicles per day near its intersection with PCH. Additionally, Malibu Canyon Road is estimated to carry 23,009 ADT north of Civic Center Way (City of Malibu2012).

Stuart Ranch Road and Webb Way are two-lane north south local streets that provide access to vacant and developed lands within the City's Civic Center. Webb Way provides a short connection between Civic Center Way and PCH, and Stuart Ranch Road, a private street, serves areas north of Civic Center Way (City of Malibu 1995). Weekday peak-hour traffic volumes at the intersection of Webb Way and PCH indicate that approximately 2,300 peak-hour daily trips occur along Webb Way. The intersection of Webb Way and Civic Center Way is stop sign controlled. Therefore, it typically has a higher per vehicle delay than other intersections in the Civic Center area. As of 2012, the Webb Way/PCH intersection had an average delay of 10 seconds in the weekday morning (AM) peak hour, 22 seconds in the weekday evening (PM) peak hour, and 10 seconds on weekends at midday. Accordingly, the corresponding level of service (LOS) for this intersection (LOS B for AM, LOS C for PM, and LOS C for midday) is lower than that of any other major intersection in the vicinity of the wastewater treatment facility but still acceptable per the City General Plan Circulation Element (Overland Traffic Consultants, Inc., 2013).

Significance Determination: Less than Significant Impact.

As described in Resource 16A, the CCWTF project (contained in the Recommended Alternative) is not expected to result in a substantial impact upon the existing transportation systems described above.

Resource 16D: Will the Proposed Alternative result in alterations to present patterns of circulation or movement of people and/or goods?

Significance Determination: Less than Significant Impact.

As described in Resource 16A, the increase in local traffic due to the movement of people and/or goods is less than significant during the operation of the wastewater treatment plant. Apart from the short disturbance during construction of the CCWTF project, the impact to traffic circulation is expected to be less than significant.

Resource 16E: Will the Proposed Alternative result in alterations to waterborne, rail or air traffic?

Significance Determination: No Impact.

The Recommended Alternative is not predicted to result in direct or indirect impacts to waterborne, rail, or air traffic.

Resource 16F: Will the Proposed Alternative result in an increase in traffic hazards to motor vehicles, bicyclists or pedestrians?

Significance Determination: Less than Significant Impact.

The construction and injection well maintenance activities associated with the CCWTF project as described in Resource 16A and 16B have a slight potential to increase the number of traffic hazards to motor vehicles, bicyclists, or pedestrians through lane closures and other construction-related activities. However, the proposed Traffic Control Plan would ensure that temporary construction impacts to traffic would be less than significant and the infrequent injection well maintenance would take all steps described in Resource 16B to cause a less than significant impact.

6.3.17 Mandatory Findings of Significance

Resource 17A: Does the Proposed Alternative 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?

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

Same as responses for Resources 1B, 3A through 3E, 4D through 4F, 5B, 5D, 6A, 7F, and 9A.

Resource 17B: Does the Proposed Alternative 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.)

Significance Determination: No Impact.

The objective of the Recommended Alternative is to manage salt and nutrient impacts to the MVGB in a sustainable manner that assists attainment of water quality objectives and preservation of beneficial uses over the long-term SNMP planning period through the year 2040. Thus, the Recommended Alternative does not achieve short-term goals to the disadvantage of long-term goals.

Resource 17C: Does the Proposed Alternative 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.)

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

Refer to Section 7 for the analysis of cumulative impacts on the environment.

Resource 17D: Does the Proposed Alternative have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Significance Determination: Less than Significant Impact with Mitigation Incorporated.

As described above, the Recommended Alternative results in three unmitigated significant environmental effects resulting from implementation of the one project contained in that alternative (the City's CCWTF project); however, all of these impacts are due to construction and are temporary in nature. Therefore, no identified substantial long-term adverse effect on human beings would occur. See responses to Resources 9A, 9D, and 16A.

7 OTHER ENVIRONMENTAL CONSIDERATIONS FOR THE RECOMMENDED PROGRAM ALTERNATIVE

In accordance with CEQA Guidelines (CCR, Section 15126.2), this section provides an overview of other environmental considerations for the Recommended Program Alternative (Alternative 2), including unavoidable significant environmental effects, cumulative impacts, growth-inducing impacts, and significant irreversible environmental changes. The subsections below describe these potential environmental impacts in detail.

7.1 UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL EFFECTS

Unavoidable significant environmental effects, as defined by the CEQA Guidelines (CCR, Section 15126.2(b)), are any significant environmental impacts that cannot be avoided if the Recommended Program Alternative is implemented. These potential impacts include those that can be mitigated but cannot be reduced to a less than significant level. According to the environmental impact analysis presented in Section 6 of this SED, Alternative 2 would result in significant unavoidable impacts during the construction, but that these impacts would be short-term in nature and would not cause any irreversible damage. In all cases, the significant, unavoidable impacts are associated with noise and traffic resulting from construction of the CCWTF project. See responses to Resources 9A, 9D, and 16A in Section 6 of this SED For details regarding these impacts.

No significant unavoidable impacts are expected during the operations phases of Alternative 2 with implementation of the identified mitigation measures.

7.2 PROGRAM-LEVEL CUMULATIVE IMPACTASSESSMENT

Cumulative impacts, as defined in the CEQA Guidelines (CCR, Section 15355), refer to two or more individual effects, that when considered together, are considerable or that increase other environmental impacts. Cumulative impact assessments must consider not only the impacts of Alternative 2, but also the impacts from other proposed municipal and private projects, which could occur in the MVGB during the SNMP future planning period. Per CEQA Guidelines (CCR, Section 15064(h)(4)), the existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that any incremental effects caused by the proposed Alternative 2 projects are cumulativelyconsiderable.

The subsections below provide a program-level assessment of the cumulative environmental impacts of the proposed projects associated with Alternative 2. Project-level environmental analyses of individual projects and their cumulative effects will be the purview of the implementing agency. Such project-level assessments will be conducted in the future, as appropriate, as projects are developed, designed, and implemented. This program-level CEQA assessment identifies all reasonably foreseeable impacts and provides mitigation measures that can be applied to individual projects associated with Alternative 2 in order to reduce impacts below significance thresholds.

The program-level cumulative impact analysis conducted for this SED includes consideration of construction activities of other reasonably foreseeable future projects (i.e. non-SNMP projects) that may occur in the vicinity and in the same general timeframe as the proposed Alternative 2 projects. In addition,

potential cumulative impacts resulting from operational activities associated with Alternative 2, in conjunction with non-SNMP projects in the MVGB, were also considered in this program-level assessment.

7.2.1 Aesthetics

The proposed project in Alternative 2 (the CCWTF project) and non-SNMP projects would occur in areas that have already been impacted by urban development. Construction activities associated with these projects could result in temporary changes to light, glare, and the visual character of the project sites and possibly the surrounding areas, primarily due to the presence of construction equipment and materials that may be visible from public vantage points. Any visual effects would be temporary and short-term (, i.e. limited to the construction period), as discussed further in Section 6.3.1. In addition, the one project contained in Alternative 2 project would occur at existing facilities, so any new structures or equipment would be aesthetically consistent with the visual character of the existing facilities and surrounding areas. In addition, the project would be designed to ensure permanent exterior lighting associated with new facilities would not affect neighboring land uses or nighttime skies.

For non-SNMP projects in the MVGB, any potentially significant impacts associated with light, glare, and aesthetics would be identified during CEQA and other assessments, as appropriate, and could be similarly mitigated. As such, impacts related to light, glare, and aesthetics would be minimized to less than significant levels through mitigation and would not combine to create cumulatively significant impacts. Therefore, Alternative 2, in combination with non-SNMP projects in the MVGB, would have a less than significant cumulative impact on light, glare, andaesthetics.

7.2.2 Air Quality

As discussed in Section 6.3.2 Air Quality, construction activities and operations at new facilities associated with Alternative 2 would result in a less than significant impact on air quality. Both Alternative 2 projects and non-SNMP projects would be required to comply with Federal, State and Local rules and regulations related to air quality. As such, there are no potentially significant adverse effects associated with Alternative 2 that would combine with other non-SNMP projects to create significant cumulative effects. Therefore, Alternative 2 and its associated projects, in combination with non-SNMP projects in the MVGB, would have a less than significant cumulative impact on air quality.

7.2.3 Biological Resources

As discussed in Section 6.3.3 Biological Resources, construction activities and operations at new facilities associated with Alternative 2 would result in a less than significant impact on biological resources, including their habitats or migratory corridors, with the implementation of Mitigation Measures BIO-1 through BIO-17. Both Alternative 2 projects and non-SNMP projects would be required to comply with Federal, State and Local rules and regulations related to the protection of biological resources. As such, there are no potentially significant adverse effects associated with Alternative 2 that would combine with other non-SNMP projects to create significant cumulative effects. Therefore, Alternative 2 and its associated projects, in combination with non-SNMP projects in the MVGB, would have a less than significant cumulative impact on naturalresources

7.2.4 Cultural Resources

As discussed in Section 6.3.4 Cultural Resources, potential impacts to cultural resources due to Alternative 2 would be less than significant with the implementation of the identified Mitigation Measures AR-1, AR-2 and PR-1. As with Alternative 2, non-SNMP projects in the MVGB would be required to comply with applicable Federal, State, and Local regulations concerning cultural resources, and any potential effects could be similarly mitigated. Therefore, Alternative 2, in combination with non-SNMP projects in the MVGB, would have a less than significant cumulative cultural resourcesimpact.

7.2.5 Geology andSoil

As discussed in Section 6.3.4 Geology and Soil, construction activities and operations at new facilities associated with Alternative 2 would result in a less than significant impact on geology and soils with the implementation of Mitigation Measures GEO-1 through GEO-7 to reduce risks associated with ground shaking, landslides, and slope instability. Both Alternative 2 projects and non-SNMP projects would be required to comply with Federal, State and Local rules and regulations related to soils and related hazards. As such, there are no potentially significant adverse effects associated with Alternative 2 that would combine with other non-SNMP projects to create significant cumulative effects. Therefore, Alternative 2 and its associated projects, in combination with non-SNMP projects in the MVGB, would have a less than significant cumulative impact on geology or soils.

7.2.6 Hazards and Hazardous Materials

Implementation of Alternative 2 has the potential to increase the use, storage, transport, and/or risk of accidental release of hazardous materials during construction and operations. As discussed in Section 6.3.6, the identified Mitigation Measures HM-1 through HM-4 would reduce risk of upset of hazardous materials and associated human health risks associated with Alternative 2 to a less than significant level. For non-SNMP projects, any potentially significant impacts associated with the routine transport, use, or disposal of hazardous materials would be assessed during CEQA and other assessments, as appropriate, and could be similarly mitigated. Both Alternative 2 projects and non-SNMP projects would be required to comply with Federal, State and Local rules and regulations related to hazardous materials. As such, impacts related to risk of upset and human health would be minimized to less than significant levels through required regulatory compliance and mitigation and would not combine to create cumulatively significant impacts. Therefore, Alternative 2, in combination with non- SNMP projects in the MVGB, would have a less than significant cumulative risk of upset and would not contribute to a cumulatively considerable impact to human health.

7.2.7 Hydrology and Water Quality

As discussed in Section 6.3.7 Hydrology and Water Quality, construction activities and operations at new facilities associated with Alternative 2 would result in a less than significant impact on water with the implementation of Mitigation Measure HY-1 to mitigate against risks associated with a potential tsunami. Both Alternative 2 projects and non-SNMP projects would be required to comply with Federal, State and Local rules and regulations related to hydrology and to minimize risks associated with these types of event. As such, there are no potentially significant adverse effects associated with Alternative 2 that would combine with other non-SNMP projects to create significant cumulative effects. Therefore, Alternative 2 and its associated projects, in combination with non-SNMP projects in the MVGB, would have a less than significant cumulative impact on hydrology and waterquality.

7.2.8 Land Use and Planning

Cumulative land use impacts could occur if non-SNMP projects in the vicinity of the proposed projects associated with Alternative 2 resulted in land use impacts, especially if the projects were implemented in combination. However, each individual Alternative 2 project and non-SNMP project would be required to either generally conform to the land use designations and zoning for their respective project sites or be subject to findings and conditions based on maintaining general conformance with the land use plans applicable to the area. As such, the proposed Alternative 2 projects and non-SNMP projects are not anticipated to substantially conflict with the intent of the General Plans of the City of Malibu or Los Angeles County, or with other land use regulations required to be consistent with these General Plans. Conformance with these land use plans and regulations would ensure that any proposed project would not result in incompatible land uses. Therefore, Alternative 2, in combination with non-SNMP projects, would have a less than significant cumulative land useimpact.

7.2.9 Noise

As discussed in Section 6.3.9 Noise, potential noise impacts due to implementation of projects in Alternative 2 would be reduced with the implementation of the identified Mitigation Measures NV-1 and NV-2. However, construction activities associated with the proposed project in Alternative 2 may occur in the same general time and space as non-SNMP projects, which could produce cumulative significant effects on noise, depending upon a range of factors including the specific project location and the precise nature of the conditions created by the simultaneous construction activities. For example, construction of some non-SNMP projects, such as pavement replacement, could occur simultaneously and within the same streets as the proposed Alternative 2 project (the CCWTF project), particularly relating to grading operations associated with new construction. The effects of construction activities on noise are due to an increase in the number of construction vehicles in use and physical constraints on site locations. As a result, noise impacts associated with project construction are considered to be significant unavoidable impact, but temporary in nature as they will occur only during construction.

7.2.10 Population

As discussed in Section 6.3.10, Alternative 2 would not generate population growth, so there are no potentially significant impacts associated with Alternative 2 that would combine with other non-SNMP projects to create significant cumulative impacts related to population and housing. Individual Alternative 2 projects and non-SNMP projects would be required to comply with local policies related to growth. Therefore, Alternative 2 and its associated projects, in combination with non-SNMP projects in the MVGB, would have a less than significant cumulative impact onpopulation.

7.2.11 Housing

As discussed in Section 6.3.11 and similar to population (discussed above), Alternative 2 would not involve the removal of housing or require the construction of replacement housing elsewhere. There are no potentially significant impacts associated with Alternative 2 that would combine with other non-SNMP projects to create significant cumulative impacts related to housing. Individual Alternative 2 projects and non-SNMP projects would be required to comply with local policies related to growth and housing. Therefore, Alternative 2 and its associated projects, in combination with non-SNMP projects in the MVGB, would have a less than significant cumulative impact onhousing.

7.2.12 Public Service

Based on the analysis presented in Section 6.3.12, Alternative 2 would have a less than significant contribution to the cumulative impacts on public services in the MVGB. There are no potentially significant impacts associated with Alternative 2 that would combine with other non-SNMP projects to create significant cumulative impacts related to public services. Therefore, Alternative 2, in combination with non-SNMP projects, would have a less than significant cumulative impact on public services.

7.2.13 Utilities and Service Systems

As discussed in Section 6.3.13 Utilities and Service Systems, the one project contained in Alternative 2 would replace all wastewater currently being disposed of on OWDS with a centralized collection, treatment and dispersal system. This same project would require minimal amounts of water and would replace imported water use with recycled water use for irrigation and other non-potable uses. The solid waste generated during construction and operation would be sent to one or more landfills in the area; however, the amount would not be enough to affect the permitted capacity of a landfill. In addition, materials would be reused and recycled to the extent possible. Thus, with implementation of the identified Mitigation Measures BIO-3, 5, 7, 10, 11, 13, and 14; AR-1 and 2; PR-1; GEO-1, 4, 5 and 7; HM-1 through 4; HY-1 and NV-1 and 2, impacts to utilities and service systems would be less than significant during construction and operations. For non-SNMP projects, any potential impacts on utilities and service

systems would be evaluated during CEQA and other assessments, as appropriate, and could be similarly mitigated. Therefore, Alternative 2, in combination with non-SNMP projects, would not contribute to a cumulatively considerable impact to utilities and service systems.

7.2.14 Recreation

Based on the analysis presented in Section 6.3.14 Recreation, Alternative 2 would have a less than significant contribution to the cumulative impacts on recreation in the MVGB. There are no potentially significant impacts associated with Alternative 2 that would combine with other non-SNMP projects to create significant cumulative impacts related to recreation. Therefore, Alternative 2, in combination with non-SNMP projects, would have a less than significant cumulative impact onrecreation.

7.2.15 Energy/GHG Emissions

As described Section 6.3.15 Energy/GHG Emissions, the production and use of recycled water generally is more energy efficient in comparison to imported water, although unit electricity consumption rises as the degree of treatment and complexity of the processes increases (California Energy Commission, 2005). Alternative 2 would decrease reliance on imported water and thus, reduce the energy requirements otherwise associated with utilizing imported water for landscape irrigation. Overall, Alternative 2 would have a less than significant impact on energy supplies and would not result in impacts that would combine with effects of other non-SNMP projects to create a cumulatively considerable impact on energy supplies.

7.2.16 Transportation/Circulation

As discussed in Section 6.3.16 Transportation/Circulation, potential traffic impacts and alterations to the circulation of people/goods due to Alternative 2 would be reduced to a less than significant level with the implementation of the identified Cumulative Mitigation Measure TRANS-1. However, construction activities associated with the proposed project in Alternative 2 may occur in the same general time and space as non-SNMP projects, which could produce cumulative significant effects on traffic and circulation, depending upon a range of factors including the specific project location and the precise nature of the conditions created by the simultaneous construction activities. For example, construction of some non-SNMP projects, such as roadway and storm drain projects, could occur simultaneously and within the same streets as the proposed Alternative 2 project (the CCWTF project), particularly installation of new pipelines within roadways. The effects of construction activities on traffic are due to an increase in the number of vehicles on local roadways (due to material delivery and worker commutes) and physical constraints on roadways if lane or street closures are required. As a result, transportation impacts are considered to be significant unavoidable impact, but temporary in nature as they will occur only during construction.

7.3 Growth-Inducing Impacts

Growth-inducing impacts are described by the CEQA Guidelines (CCR, Section 15126.2(d)) as follows

> [T]he 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 must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

In accordance with the CEQA Guidelines, the following subsections describe the types of growth that can occur in the MVGB and the potential for Alternative 2 to induce direct and indirect growth in the MVGB.

7.3.1 Types of Growth

The primary types of growth that can occur within the MVGB are:

1. Growth in land development; and
2. Population growth (economic growth, such as the creation of additional jobopportunities, generally would lead to population growth and, therefore, is included indirectly as part of population growth.)

Growth in Land Development

Growth in land development is the physical development or construction of residential, commercial, and industrial properties in the MVGB. Land use growth is subject to General Plans, community plans, parcel zoning, and applicable entitlements and is dependent on adequate infrastructure to support the development.

Population Growth

Population growth is the increase in the number of persons that live and work in the MVGB, specifically in the various jurisdictions within the boundaries of the MVGB. Population growth occurs from natural causes (births minus deaths), net emigration, and immigration from other geographical areas. Emigration or immigration can occur in response to economic opportunities, lifestyle choices, or for other 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 public services, despite minimal land use growth.

Overall development in the MVGB is governed by the Los Angeles County General Plan, the City of Malibu General Plan and other similar planning documents (e.g. master plans and land use plans) established by the City and other entities within the groundwater basin. These planning documents are intended to guide land use development in an orderly manner and thus, are the framework under which development occurs. Within this framework, land use entitlements (e.g. variances and conditional use permits) can be obtained, so the General Plan and other similar planning documents do not represent an obstacle to land use growth. Obstacles to growth are identified in Section 7.3.2below.

7.3.2 Direct and Indirect GrowthInducement

A project can have direct and/or indirect growth inducement potential. An example of direct growth inducement is construction of new housing. An example of indirect growth inducement is a project that establishes substantial new permanent employment opportunities that result in immigration to the project area and in turn stimulate the need for additional housing and services to support the new employment demand. Similarly, a project could indirectly induce growth if it removes an obstacle to growth, such as removing a constraint on a required public service, such as water supply, roadway infrastructure, wastewater treatment or sewer services, or solid waste disposal services.

While public services are needed to support growth and community development, they are not the single determinant of such growth. Other factors, including General Plan policies, land use plans, and zoning,

also influence business and residential population growth. Economic factors, in particular, greatly affect development rates and locations. Typically, the growth-inducing potential of a project, either direct or indirect, would be considered significant if it results in growth or a population increase that exceeds those assumptions included in pertinent master plans, land use plans, or projections made by regional planning authorities.

Growth inducement itself is not necessarily an adverse impact. It is the potential consequences of growth, the secondary effects of growth, which may result in environmental impacts. Potential secondary effects of growth could include increased demand on other public services; increased traffic and noise; degradation of air quality; loss of plant and animal habitats; and the conversion of agriculture and open space to developed uses. Growth inducement may result in adverse impacts if the growth is not consistent with the land use plans and growth management plans and policies for the area, as "disorderly" growth could indirectly result in additional adverse environmental impacts. Thus, it may be important to assess the degree to which the growth accommodated by a project would or would not be consistent with applicable land use plans.

The potential for Alternative 2 to induce direct and indirect growth was evaluated and is discussed separately in detail below.

Direct Growth Inducement

To meet the objectives of the SNMP and the Recycled Water Policy, the proposed Alternative 2 focus on seawater intrusion control, groundwater recharge, stormwater capture/runoff management, and non-potable recycled water reuse. These proposed projects would not include construction of new housing and, therefore, would not result in direct significant growth-inducing impacts in the MVGB.

Indirect Growth Inducement

Alternative 2 has the potential to induce growth indirectly in two ways: (1) remove an obstacle to land use or population growth, and/or (2) generate economic opportunities that could lead to an increase in population. An obstacle to growth could include inadequate infrastructure, such as an insufficient water supply that results in rationing or deficient 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.

Implementation of the proposed Alternative 2 project would occur over a 10-year timeframe (with Phase 3 of the CCWTF project implemented by 2025, if required). Construction, operations, and maintenance activities associated with these proposed projects would generate jobs throughout the MVGB and possibly elsewhere for purposes of manufacturing durable goods. The creation of jobs in the region and elsewhere is considered a benefit. However, the creation of jobs would not be substantial and the majority of the new jobs are expected to be filled by persons already residing in the Malibu area, based on the existing surplus of unemployed persons. Therefore, economic opportunities created as a result of the proposed Alternative 2 projects would not indirectly result in significantgrowth-inducing impacts.

Regarding the potential for indirect growth inducement through the removal of obstacles to growth, Alternative 2 is intended to meet the requirements set forth in the City of Malibu's MOU with the State Water Resources Control Board and to introduce the use of recycled water throughout the MVGB to offset imported water, while maintaining WQOs, in accordance with the Basin Plan and Recycled Water Policy. Alternative 2 would completely replace the use of OWDSs for wastewater disposal in the groundwater

basin, replace imported water with locally-produced recycled water for purposes of landscape irrigation, would initiate groundwater injection to create a barrier against seawater intrusion, and contains projects that would increase stormwater capture and replenishment. Such projects would provide a sustainable, local source of water (i.e., recycled water), offsetting imported supply while removing identified contribution of nutrients and bacteria to local surface water bodies with TMDLs.

As the one project contained in Alternative 2 (the CCWTF project) will remove an obstacle to growth (the ban against future OWDS discharges), the potential exists for indirect impacts on the environment associated with new development, such as the buildout of housing and commercial land uses in the Civic Center area. However, Local Coastal Program (LCP) Local Implementation Plan (LIP) Section 18.10 states that community sewer facilities shall not have a service capacity that would exceed the amount of development allowed by the existing LCP development standards and that a new public sewer facility shall require certification of a Local Coastal Program Amendment by the California Coastal Commission. As such, the recently-passed Local Coastal Program Amendment includes requirements that would strictly limit the design capacity of all phases of the CCWTF project to the level of development allowed under the current LCP. Accordingly, growth resulting from the CCWTF project would be consistent with the City of Malibu General Plan and density limitations as per the LCP and City Zoning Code. Therefore, while this project would potentially facilitate planned growth, the indirect impacts associated with this growth have been accounted for in the City of Malibu General Plan and would be required to undergo environmental review and approval on an individual project basis. Therefore, Alternative 2 would not be considered growth inducing.

7.4 Significant Irreversible Environmental Changes

CEQA Guidelines (CCR, Section 15126.2(c)) requires identification of potential significant, irreversible environmental changes that could result from the implementation of Alternative 2. Examples of such changes include the commitment of nonrenewable resources to uses that future generations will not be able to reverse, irreversible damage that may result from accidents associated with a project, or irretrievable commitment of resources. Although the proposed Alternative 2 projects would require resources (materials, labor, and energy), they do not represent a substantial irreversible commitment of resources. In accordance with the Recycled Water Policy and the Governor's recent drought proclamations, implementation of Alternative 2 is both necessary and beneficial because it reduces reliance on limited imported potable water supplies by allowing for recycled water use in the MVGB in a manner that attains WQOs and preserves beneficial uses. In addition, recycled water is a renewable resource, and therefore, the implementation of Alternative 2 would not result in an irretrievable commitment of nonrenewable resources or significant irreversible environmental changes in the MVGB.

8 ANALYSIS OF ALTERNATIVES

The analysis of alternatives (Alternative 1) to the Recommended Program Alternative (Alternative 2) was conducted pursuant to LARWQCB's SNMP Assistance Document (Appendix B); CCR Title 23, Section 3777(a); and PRC Section 21159. Alternative 1 was developed by the LARWQCB and MVGB as reasonable options that could feasibly avoid or substantially lessen the identified significant environmental effects of Alternative 2 while still attaining most of the basic objectives of the SNMP and Recycled Water Policy (CCR, Title 14, Section 15126.6). Section 5 of this SED provides details regarding Alternatives 1 and 2.

Alternative 2 includes management actions and one proposed major recycled water project in the MVGB, so construction activities and operational modifications to existing facilities are anticipated. As the Recommended Program Alternative, a complete environmental analysis of Alternative 2 was conducted and results are presented in Section 6. As discussed in Section 6, implementation of Alternative 2 potentially could result in significant environmental impacts related to aesthetics, air, geology and soil, biological and cultural resources, noise, hazards/hazardous materials, hydrology, transportation, utilities and service systems. These potential impacts would be reduced to a less than significant level with implementation of the mitigation measures identified in Section 6.3, except for noise and transportation, for which there will be short-term, construction-related impacts that will be significant andunavoidable.

As described in Section 5, Alternative 1 is the No Future Projects alternative, so it does not include any planned management actions or the proposed major recycled water project (the CCWTF project). Alternative 2 includes management actions and the proposed major recycled water project. The alternatives analysis presented in this section is based on the City of Malibu's *Civic Center Wastewater Treatment Facility Project Final EIR* (RMC Water and Environment and ICF, 2014).

8.1 PROGRAM 1: NO FUTUREPROJECTS

Alternative 1, the No Future Projects alternative, assumes that the MVGB stakeholders will not carry out any of the planned management actions or the proposed major recycled water project which were described in Section 4. Hence, no construction activities would occur under Alternative 1 and operational activities atexisting facilities would continue under current conditions.

Alternative 1 is contrary to the Recycled Water Policy, which requires development of an SNMP that must include management actions to manage salt and nutrient loading on a sustainable basis. An SNMP that does not contain implementation measures would not be in compliance with the Recycled Water Policy and thus, Alternative 1 would not be feasible for implementation. The following subsections describe the potential environmental effects of Alternative 1 relative to those of the Recommended Program Alternative (Alternative 2).

8.1.1 Aesthetics

Under Alternative 1, no construction activity would occur, so there would be no change in the visual environment and no additional impacts to light, glare, or aesthetics. Since the current visual characteristics at existing facilities would remain the same, any potential impacts to light, glare, and aesthetics due to Alternative 1 would be less than Alternative 2 (see Sections 6.3.1).

8.1.2 Air Quality

Under Alternative 1, no construction activity would occur, so current operational activities at existing facilities sites would remain the same and no additional regional or localized air or GHG emissions would be generated. Therefore, Alternative 1 would result in no new impacts to air, which would be less than any potential impacts due to Alternative 2 (see Section 6.3.2).

8.1.3 Biological Resources

Under Alternative 1, no construction activity would occur, so there would be no temporary impacts to riparian/upland habitat or migratory birds, bats, or special status plant and wildlife species and no vegetation removal. Since current conditions at existing facilities would remain the same, any potential direct or indirect impacts to plant or animal life due to Alternative 1 would be less than Alternative 2 (see Sections 6.3.3).

8.1.4 Cultural Resources

Under Alternative 1, no construction activity would occur, so no ground disturbing activities would occur that could impact archaeological or historical resources. Since current conditions at existing facilities would remain the same, any potential impacts to cultural resources due to Alternative 1 would be less than Alternative 2 (see Section 6.3.4).

8.1.5 Geology and Soil

Under Alternative 1, no construction activity would occur, so there would be no alterations of geology or soils. Since current conditions at existing facilities would remain the same, there would be no impacts to geology or soils under Alternative 1, which would be less than Alternative 2 (see Section 6.3.5).

8.1.6 Hazards and Hazardous Materials

Under Alternative 1, no major recycled water projects or planned implementation measures would occur, so conditions at existing facilities would remain the same and there would be no new risks associated with any current uses of hazardous materials or creation of new human health hazards. Therefore, Alternative 1 would result in no new impacts to human health or risks associated with hazardous substances, which would be less than any potential impacts due to Alternative 2 (see Section 6.3.6).

8.1.7 Hydrology and Water Quality

Under Alternative 1, no construction activity would occur, so no construction-related polluted stormwater runoff would be generated. Since current conditions/operations at existing facilities would remain the same, imported water would continue to be used for landscape irrigation in the MVGB and no seawater intrusion barrier would be formed.

For Alternative 2, some implementation measures and proposed recycled water projects will directly improve groundwater quality, such as the following:

- CCWTF Project – This proposed project will introduce recycled water to the MVGB and will allow for the replacement of imported water currently being used for irrigation and other non-potable uses with the disinfected recycled water. This project will reduce nutrient and bacteria loading to the groundwater basin and interconnected surface water bodies (Malibu Creek and Lagoon) by removing the use of septic systems in the basin and replacing it with a centralized wastewater collection and treatment system.
- Seawater Intrusion Barrier – Recycled water produced by the CCWTF project and not used for irrigation or non-potable uses in the MVGB will be injected into wells located along Malibu Road.

This injection will result in the formation of a partial groundwater injection barrier that will help to reduce the potential for seawater intrusion into the groundwater basin.

Additionally, Alternative 2 includes stormwater runoff management which would identify and protect important recharge areas in the groundwater basin and help to ensure long-term percolation of mountain front runoff into the groundwater basin, improving groundwater quality.

Based on the analysis presented in the SNMP, Alternative 2 would result in greater improvements to groundwater quality in comparison to Alternative 1. Therefore, due to foregone benefits, any potential impacts to groundwater quality due to Alternative 1 would be greater than Alternative 2 (see Section 6.3.7).

8.1.8 Land Use and Planning

Under Alternative 1, no major recycled water projects or planned implementation measures would occur, so there would be no changes to land uses at existing facilities. Therefore, no impacts to land use would occur under Alternative 1, which would be less than any potential impacts due to Alternative 2 (see Section 6.3.8)

8.1.9 Noise

Under Alternative 1, no construction activity would occur, so operational activities at existing facilities would remain the same. Therefore, any current noise impacts due to Alternative 1 would be less than Alternative 2 (see Section 6.3.9).

8.1.10 Population

Under Alternative 1, no major recycled water projects or planned implementation measures would occur, so this program alternative would not alter or induce growth of the human population. As discussed in Section 6.3.10, Alternative 2 also would not alter the human population; thus, both Alternatives 1 and 2 are similar and would not impact population.

8.1.11 Housing

Under Alternative 1, no major recycled water projects or planned implementation measures would occur, so this program alternative would not alter or induce growth of the human population that could affect existing housing or the need to construct additional housing. As discussed in Section 6.3.11, Alternative 2 also would not affect existing housing; therefore, both Alternatives 1 and 2 are similar and would not impact housing.

8.1.12 Public Service

Under Alternative 1, no construction activity would occur, so there would be no temporary disruption of public facilities (e.g. roads). Since there would be no changes to current conditions at existing sites, there would be no increased need for police, fire, schools, libraries, or other public services. Thus, no new impacts to public services would occur under Alternative 1, which would be less than any potential impacts due to Alternative 2 (see Section 6.3.12).

8.1.13 Utilities and Service Systems

Under Alternative 1, no major recycled water projects or planned implementation measures would occur, so there would be no need for new or substantial alterations to power, natural gas, communication systems, water, sewer, landfills, or stormwater drainage. Since conditions at existing facilities will remain the same, there would be no change in demand for energy or other public utilities. However, under Alternative 2, there would be a regional benefit to energy demand due to the replacement of imported water with recycled water for irrigation and other non-potable uses. Since imported water is more energy

intensive to produce/deliver than recycled water, under Alternative 1 the continued use of imported water would forego any potential benefit to energy demand associated with the use recycled water under Alternative. As a result, impacts energy would be greater under Alternative 1 than Alternative 2; impacts to utilities and service systems would be less under Alternative 1 than Alternative 2 (see Section 6.3.13).

8.1.14 Recreation

Under Alternative 1, no construction activity would occur, so there would be no temporary disruption of recreational facilities (e.g. parks). Since there would be no changes to current conditions at existing sites, there would be no increased need for recreation facilities; thus, no new impacts to recreation would occur under Alternative 1, which would be less than any potential impacts due to Alternative 2 (see Section 6.3.14).

8.1.15 Energy/GHG Emissions

Under Alternative 1, no construction activity would occur, so current operational activities at existing facilities sites would remain the same and no additional regional or localized air or GHG emissions would be generated. Therefore, Alternative 1 would result in no new impacts resulting from GHG emissions, which would be less than any potential impacts due to Alternative 2 (see Section 6.3.15).

Under Alternative 1, no major recycled water projects or planned implementation measures would occur, so there would be no need for new or substantial alterations to power, natural gas or energy demand. Since conditions at existing facilities will remain the same, there would be no change in demand for energy. However, under Alternative 2 there would be a regional benefit to energy demand due to the replacement of imported water with recycled water for landscape irrigation and other non-potable uses. Since imported water is more energy intensive to produce/deliver than recycled water, under Alternative 1 the continued use of imported water would forego any potential benefit to energy demand associated with the use recycled water under Alternative 2. As a result, impacts energy would be greater under Alternative 1 than Alternative 2 (see Section6.3.15).

8.1.16 Transportation/Circulation

Under Alternative 1, no construction activity would occur, so there would be no construction-related traffic and no disruption to roadway segments or bicycle, pedestrian, or transit facilities. Since conditions at existing facilities will remain the same, current operational activities will not alter any existing effects on transportation systems, parking facilities, vehicular movement, traffic hazards, or the circulation of people and goods. Therefore, Alternative 1 would result in no new impacts to transportation or circulation, which would be less than any potential impacts due to Alternative 2 (see Section 6.4.16).

8.1.17 Conclusion

As discussed in Section 6, potentially significant environmental impacts related to aesthetics, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, and transportation were identified in association with Alternative 2; however, mitigation measures also were identified to minimize these potential impacts to a less than significant level. Although these potential impacts would be entirely avoided under Alternative 1 (due to no future projects), this program alternative would have a greater impact on groundwater quality than Alternative 2 since no major recycled water projects or planned implementation measures would occur under Alternative 1, and the OWDSs (septic systems) would continue to be used in the MVGB, impacting shallow groundwater and nearby surface water quality. In addition, Alternative 1 would not meet the objective of the SNMP, which is to manage salt and nutrient loading on a sustainable basis, and would not be in compliance with the Recycled Water Policy.

8.2 Environmentally Superior Program Alternative

Among the alternatives to the Recommended Program Alternative, Alternative 2 would be environmentally superior (as defined in the CEQA Guidelines; CCR, Section 15126.6(e)(2)), primarily because it includes the CCWTF Project as it provides long-term benefits as a result of short-term construction-related impacts. Additionally, unlike Alternative 1, Alternative 2 would meet the objectives of the SNMP and Recycled Water Policy because it includes implementation measures that would manage salt and nutrient loading on a sustainable basis. As described in Section 8.1, Alternative 1 would result in lessened environmental impacts to soil, air, biological resources, noise, aesthetics, hazards, transportation, and cultural resources. Table 8-1 provides a comparison of the potential environmental impacts of the alternatives to the Recommended Program Alternative.

TABLE 8-1: Comparison of Potential Environmental Impacts for the Program Alternatives

Environmental Resource	Alternative 1 – No Future Projects	Alternative 2 – Recommended Program Alternative
Aesthetics	(Less)	2, 3
Air Quality	(Less)	3, 4
Biological Resources	(Less)	2, 4
Cultural Resources	(Less)	2, 4
Geology and Soils	(Less)	2, 3, 4
Hazards and Hazardous Materials	(Less)	2, 3
Hydrology and Water Quality	(More)	2, 3, 4
Land Use and Planning	(Less)	3
Noise	(Less)	1, 2, 3, 4
Population	(Same)	3
Housing	(Same)	3
Public Services	(Less)	3, 4
Utilities and Service Systems	(Same)	3
Recreation	(Less)	3, 4
Energy/GHG Emissions	(More)	3
Transportation/Circulation	(Less)	1, 3, 4

1 – Potentially significant impact
2 – Less than significant impact with mitigation incorporated
3 – Less than significant impact
4 – No impact
(Indicates the impact relative to the Recommended Program Alternative, so Less, More or Similar)

9 DETERMINATION

The LARWQCB, with assistance from the MVGB stakeholders, has balanced the economic, legal, social, technological, and other benefits of the Recommended Program Alternative (Alternative 2) against the potentially significant environmental effects identified in this SED in determining whether to recommend that the LARWQCB approves this program alternative. Upon review of the environmental information generated for this program-level CEQA analysis and in view of the entire record supporting Alternative 2 (including the detailed, project-level analysis conducted on the City of Malibu's CCWTF project), LARWQCB has determined that the identified potential environmental effects can be mitigated such that long-term significant adverse environmental impacts associated with the implementation of Alternative 2 would be less than significant.

The implementation of the Basin Plan Amendment will result in improved groundwater quality in the MVGB and will have significant positive impacts to the environment (including the preservation of groundwater beneficial uses and improvement to sensitive surface water resources) and the economy over the long term. Preservation of groundwater beneficial uses will have positive social and economic effects by decreasing salt and/or nutrient loading and reducing salt and/or nutrient concentrations in groundwater in the MVGB beyond those that would occur without the CCWTF project. As presented in this SED, the program-level CEQA analysis concludes that there may be potentially significant impacts to the environment from implementation of Alternative 2, but these impacts are generally expected to be limited, short-term, and/or would be reduced to less than significant levels through the implementation of the identified mitigation measures. Additionally, the program-level CEQA analysis further concludes that when Alternative 2 is implemented in combination with non-SNMP projects in the region, there would be less than significant cumulative impacts on the environment.

To determine the impacts on future groundwater quality, the one major proposed project associated with Alternative 2 was simulated using the SNMP mixing model. Modeling results clearly demonstrate that, while this future recycled water project may increase salt and/or nutrient loading, this effect is more than offset by management actions and other projects that reduce salt and/or nutrient loading and thus, groundwater quality overall in the MVGB would either continue to improve or remain well below WQOs for salts and/or nutrients.

The MVGB SNMP, Basin Plan Amendment, and this SED provide the necessary information pursuant to PRC Section 21159 to conclude that when properly designed and implemented, Alternative 2 generally should not have a reasonably foreseeable significant adverse effect on the environment. As one specific project is implemented under Alternative 2, if any other recycled water project were to be identified and proposed for the groundwater basin, subsequent and separate project-level CEQA assessments would occur where applicable and necessary. Any project-specific potential environmental impacts would be identified through the subsequent project-level CEQA process and the implementing agencies (i.e. MVGB stakeholders) would be responsible for identifying the recommended mitigation measures. In accordance with CEQA, the lead agency for each project would be responsible for mitigating all the significant environmental impacts they identify, unless they have reason not to do so. This program-level CEQA assessment identifies all reasonably foreseeable impacts and provides mitigation measures that can be applied to individual projects associated with Alternative 2 in order to reduce impacts below significance thresholds. In addition, in the event that project-level CEQA assessments identify unavoidable or immitigable impacts that would present unacceptable hardship upon nearby receptors, venues, or

resources, the implementing agencies would have a variety of alternative SNMP implementation measures available that could be used instead to avoid such unavoidable or immitigable impacts.

At this program level, any more particularized conclusions would be speculative. The LARWQCB does not have legal authority to specify the manner of compliance with its orders or regulations (California Water Code Section 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 parties that will be responsible for implementing the proposed projects associated with Alternative 2, and those parties can and should employ alternatives and mitigation measures to reduce any impacts to the extent feasible (California Code of Regulations, Title 14, Section 15091(a)(2)).

Implementation of the MVGB SNMP is both necessary and beneficial. To the extent that the alternatives, mitigation measures, or both, that were evaluated in this program-level CEQA analysis are not deemed feasible by the MVGB stakeholders, the necessity of implementing an SNMP and managing salts and nutrients in the MVGB remains, as required by the Recycled Water Policy.

LARWQCB Determination

☐ The Recommended Program Alternative (Alternative 2) COULD NOT have a significant effect on the environment, and, therefore no alternatives or mitigation measures are proposed.

❒ The Recommended Program Alternative (Alternative 2) MAY have a significant or potentially significant effect on the environment, and, therefore alternatives and mitigation measures have been evaluated.

Signature	Date
Printed Name	Agency

Note: Authority Cited Sections 21083 and 21087, Public Resources Code. Reference: Sections 21080(c), 21080.1, 21082.1, 21083.3, 21093, 21094, 21151, Public Resources Code.

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APPENDICES

Appendix A – State Water Resources Control Board *Recycled Water Policy for Water Quality Control for Recycled Water* (Resolution No. 2013-0003)

Appendix B – Los Angeles Regional Water Quality Control Board *Regional Water Board Assistance in Guiding Salt and Nutrient Management Plan Development in the Los Angeles Region*

Appendix C – City of Malibu *Final Environmental Impact Report, Malibu Civic Center Wastewater Treatment Facility Project*

Appendix D - Response to Comments Received as Part of SED Scoping Process