PLANNING DEPARTMENT
Date of Notice: **November 26, 2019**
PUBLIC NOTICE OF AVAILABILITY (NOA) FOR A
DRAFT ENVIRONMENTAL IMPACT REPORT (EIR)

PUBLIC NOTICE: The City of San Diego Planning Department has prepared a Draft EIR for the following project and is inviting your comments regarding the adequacy of the document. The Draft EIR and associated technical appendices have been placed on the City of San Diego's California Environmental Quality Act (CEQA) website under the heading "Draft CEQA Documents" and can be accessed using the following link:

https://www.sandiego.gov/ceqa/draft

Your comments must be received by January 10, 2020 to be included in the final document considered by the decision-making authorities. Please send your written comments to the following address: **Myra Herrmann, Environmental Planner, City of San Diego Planning Department, 9485 Aero Drive, MS 413, San Diego, CA 92123 or e-mail your comments to PlanningCEQA@sandiego.gov with the Project Name and Number in the subject line. Please note only written comments, received either via US Mail, hand-delivered, or via email, will be considered official comments in the Final EIR.**

PROJECT NAME: Municipal Waterways Maintenance Plan
PROJECT No. 616992 / SCH No. 2017071022
COMMUNITY AREAS: Citywide
COUNCIL DISTRICTS: All

APPLICANT: City of San Diego, Transportation & Storm Water Department

PROJECT BACKGROUND: Under City Charter Section 26.1 and Council Policy 800-04, the City of San Diego (City) Transportation & Storm Water Department (TSW) is responsible for maintaining adequate drainage facilities to remove storm water runoff in an efficient, economic, and environmentally and aesthetically acceptable manner for the protection of property and life. The City generally accepts responsibility for maintenance of public drainage facilities that are designed and constructed to City standards and located within a public street or drainage easement dedicated to the City. Maintenance and repairs are an important component of operating the storm water conveyance system and providing reliable flood risk reduction throughout the City. This includes removing accumulated sediment, trash, debris and vegetation that compromise the system. Often, maintenance occurs in areas where authorization or permits from various regulatory agencies are required to protect environmental resources. TSW previously conducted maintenance of drainage facilities pursuant to the former Master Storm Water System Maintenance Program (MMP).

In 2011, the City developed the MMP to govern channel operation and maintenance activities. The MMP identified a specific planning, impact assessment and mitigation process for channel maintenance activities. The certified Final Recirculated Programmatic Environmental Impact Report (PEIR) for the MMP included 113 channel facility segments, covering a linear distance of 32 miles. However, to authorize maintenance under the MMP, an extensive site-specific review by the regulatory agencies and the public was required prior to each maintenance activity and took up to 24 months to complete. A lawsuit was filed challenging the MMP *(San Diegans for Open Government et al. v. City of San Diego*, San Diego Superior Court Case No. 37-2011-00101571), and the City entered into a settlement agreement, which required, among other things, the City to consider the PEIR for the MMP "null and void" as of September 2018.

PROJECT DESCRIPTION: CITY COUNCIL APPROVAL of a Coastal Development Permit (CDP) and Site Development Permit (SDP), and an Ordinance for implementation of the Municipal Waterways Maintenance Plan to allow for a subsequent approval process not required in the San Diego Municipal Code (SDMC).

The Municipal Waterways Maintenance Plan (MWMP) provides the regulatory guidance and parameters for the City of San Diego's (City) Transportation & Storm Water Department (TSW) to maintain and repair existing storm water facilities necessary to reduce and manage flood risk. The MWMP provides both a project-level and program-level analysis for the specific maintenance and repair activities in areas where potential local, state, and federally regulated impacts may be necessary and includes:

- A list of Facility Maintenance Plans (FMPs) that provide project-specific details and requirements for the majority of facilities that are likely to require routine maintenance and repair.
- A range of plan-wide activities that may occur throughout the storm water system where flood risks may arise and that will be conducted in accordance with a regulatory framework identified under the MWMP and associated permits.

Together, these two components provide operational flexibility while also providing specific, detailed analysis for the majority of anticipated maintenance and repair activities.

Project-Level Analysis (Facility Maintenance Plans): The MWMP identifies specific channels, ditches, storm drain structures (outlets/inlets), and basins that may require maintenance in the near future. This list of facilities is included in the MWMP for site-specific evaluation and project-level maintenance. For the project-level evaluation, the MWMP includes 66 FMPs (covering 113 segments and approximately 18 linear miles) that include the following:

- 50 channel/ditch groups – 96 segments
- 6 basins groups – 7 segments
- 10 structure groups covering 10 structures

Program-Level Analysis (Other Activities): The MWMP also includes a program-level analysis and process to handle and address other storm water assets or facilities that are not analyzed at the project-level, as well as certain plan-wide maintenance activities that may also be implemented under the MWMP. The MWMP establishes a process and mitigation framework to address these potential additional related plan-wide programmatic activities, including:

- Minor maintenance activities
- Changed conditions for new or substantially amended FMPs
- Compensatory mitigation sites
- Emergency maintenance or repair

For the plan-wide programmatic evaluation, the following facilities comprise the City's storm water system:

- Approximately 50 miles of channels, ditches, and basins
- 48,561 drainage conveyance facilities (including storm drain pipes and channels)
- 55,334 structures (including inlets, outlets, cleanouts, and connectors)
- 3,724 drainage best management practice (BMP) facilities
- 85 Capital Improvement Program facilities (outlets, BMPs, and stream restoration)

PROJECT LOCATION: Citywide. The City's municipal separate storm sewer system (MS4) or storm water system is distributed throughout the 342 square-mile metropolitan area. In general, the MS4 conveys storm water runoff from natural and developed areas to receiving waters. The City's MS4 system is an inter-connected system of constructed drains, pipes, and engineered channels that discharge to natural drainages and receiving waters. As a result, the physical characteristics vary with the individual components of the MS4.

Recommended Finding: The Draft EIR concludes that the proposed project would result in significant and unavoidable/cumulatively significant and unavoidable impacts in the areas of **Biological Resources, Solid Waste, and Water Quality,** and less than significant environmental impacts with implementation of Environmental Protocols (EPs) or impacts mitigated to less than significant in the areas of **Aesthetics/Visual Effects and Neighborhood Character, Air Quality and Odor, Greenhouse Gas Emissions, Health and Safety Hazards, Historical, Archaeological, and Tribal Cultural Resources, Hydrology, Land Use, Noise, and Paleontological Resources**.

Availability in Alternative Format: To request this Notice, Draft EIR and/or supporting documents in alternative format, please call the Planning Department at (619) 235-5200 or at (800) 735-2929 (TEXT TELEPHONE).

Additional Information: For environmental review information, contact Myra Herrmann at (619) 446-5372 or via email at mherrmann@sandiego.gov. The Draft EIR and supporting documents may be reviewed, or purchased for the cost of reproduction, at the Planning Department. For information regarding public meetings/hearings on this project, contact the Project Manager, Anne Jarque, at (619) 527-7507 or via email at ajarque@sandiego.gov.

This notice was published in the SAN DIEGO DAILY TRANSCRIPT and distributed on **November 26, 2019**.

Alyssa Muto
Deputy Director
Planning Department

The City of SAN DIEGO
Planning Department
Environment & Mobility Planning Division

DRAFT
ENVIRONMENTAL IMPACT REPORT

Project No. 616992
SCH No. 2017071022

SUBJECT: **MUNICIPAL WATERWAYS MAINTENANCE PLAN**

Applicant: City of San Diego, Transportation and Storm Water Department

DRAFT DOCUMENT – November 26, 2019:

PROJECT DESCRIPTION: CITY COUNCIL APPROVAL of a Coastal Development Permit (CDP) and Site Development Permit (SDP), and an Ordinance for implementation of the Municipal Waterways Maintenance Plan to allow for a subsequent approval process not required in the San Diego Municipal Code (SDMC).

The Municipal Waterways Maintenance Plan (MWMP) provides the regulatory guidance and parameters for the City of San Diego's (City) Transportation & Storm Water Department (TSW) to maintain and repair existing storm water facilities necessary to reduce and manage flood risk. The MWMP provides both a project-level and program-level analysis for the specific maintenance and repair activities in areas where potential local, state, and federally regulated impacts may be necessary and includes:

- A list of Facility Maintenance Plans (FMPs) that provide project-specific details and requirements for the majority of facilities that are likely to require routine maintenance and repair.
- A range of plan-wide activities that may occur throughout the storm water system where flood risks may arise and that will be conducted in accordance with a regulatory framework identified under the MWMP and associated permits.

Together, these two components provide operational flexibility while also providing specific, detailed analysis for the majority of anticipated maintenance and repair activities.

Project-Level Analysis (Facility Maintenance Plans): The MWMP identifies specific channels, ditches, storm drain structures (outlets/inlets), and basins that may require maintenance in the near future. This list of facilities is included in the MWMP for site-specific evaluation and project-level maintenance. For the project-level evaluation, the MWMP includes 66 FMPs (covering 113 segments and approximately 18 linear miles) that include the following:

- 50 channel/ditch groups – 96 segments
- 6 basins groups – 7 segments
- 10 structure groups covering 10 structures

Program-Level Analysis (Other Activities): The MWMP also includes a program-level analysis and process to handle and address other storm water assets or facilities that are not analyzed at the project-level, as well as certain plan-wide maintenance activities that may also be implemented under the MWMP. The MWMP establishes a process and mitigation framework to address these potential additional related plan-wide programmatic activities, including:

- Minor maintenance activities
- Changed conditions for new or substantially amended FMPs
- Compensatory mitigation sites
- Emergency maintenance or repair

For the plan-wide programmatic evaluation, the following facilities comprise the City's storm water system:

- Approximately 50 miles of channels, ditches, and basins
- 48,561 drainage conveyance facilities (including storm drain pipes and channels)
- 55,334 structures (including inlets, outlets, cleanouts, and connectors)
- 3,724 drainage best management practice (BMP) facilities
- 85 Capital Improvement Program facilities (outlets, BMPs, and stream restoration)

PROJECT LOCATION: Citywide. The City's municipal separate storm sewer system (MS4) or storm water system is distributed throughout the 342 square-mile metropolitan area. In general, the MS4 conveys storm water runoff from natural and developed areas to receiving waters. The City's MS4 system is an inter-connected system of constructed drains, pipes, and engineered channels that discharge to natural drainages and receiving waters. As a result, the physical characteristics vary with the individual components of the MS4.

ENVIRONMENTAL DETERMINATION:

The purpose of this document is to inform decision-makers, agencies, and the public of the significant environmental effects that could result if the project is approved and implemented, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.

Based on the analysis conducted for the project described above, the City of San Diego has prepared the following Draft Environmental Impact Report (EIR) in accordance with the California Environmental Quality Act (CEQA). The analysis conducted identified that the project could result in significant and unavoidable/cumulatively significant and unavoidable impacts in the areas of **Biological Resources, Solid Waste, and Water Quality,** and less than significant environmental impacts with implementation of Environmental Protocols (EPs) or impacts mitigated to less than significant in the areas of **Aesthetics/Visual Effects and Neighborhood Character, Air Quality and Odor, Greenhouse Gas Emissions, Health and Safety Hazards, Historical, Archaeological, and Tribal Cultural Resources, Hydrology, Land Use, Noise, and Paleontological Resources**.

This document has been prepared by the City of San Diego's Planning Department and is based on the City's independent analysis and determinations made pursuant to Section 21082.1 of the California Environmental Quality Act (CEQA) and Section 128.0103(a) and (b) of the San Diego Municipal Code.

RESULTS OF PUBLIC REVIEW:

( ) No comments were received during the public input period.

( ) Comments were received but did not address the accuracy or completeness of the draft environmental document. No response is necessary and the letters are incorporated herein.

( ) Comments addressing the accuracy or completeness of the draft environmental document were received during the public input period. The letters and responses are incorporated herein.

Alyssa Muto, Deputy Director
Planning Department

November 26, 2019
Date of Draft Report

Date of Final Report

Analyst: Myra Herrmann, Senior Planner, Planning Department

PUBLIC REVIEW DISTRIBUTION:

The following agencies, organizations, and individuals received a copy or notice of the Draft PEIR and were invited to comment on its accuracy and sufficiency. Copies of the Draft PEIR, the Mitigation Monitoring and Reporting Program and any technical appendices may be reviewed in the offices of the Planning Department, or purchased for the cost of reproduction.

Federal Government
Naval Facilities Southwest - Environmental Planning Division Naval Facilities (12)
MCAS Miramar Air Station (13)
U.S. Environmental Protection Agency (19)
US Border Patrol (22)
U.S. Fish and Wildlife Service (23)
U.S. Army Corps of Engineers Los Angeles District (26)

State of California
CALTRANS District 11 (31)
California Department of Fish and Game (32)
CAL Recycle (35)
California Environmental Protection Agency (37A)
Department of Toxic Substance Control (39)
California State Parks (40A)
California Natural Resources Agency (43)
California Regional Water Quality Control Board, Region 9 (44)
State Clearinghouse (46A)
California Coastal Commission (47)
California Coastal Commission (48)
California Transportation Commission (51)
California Transportation Commission (51A)
California State Coastal Conservancy (54)
State Water Resources Control Board (55)
Native American Heritage Commission (56)
California Energy Commission (59)
California Department of Conservation (60)
California Department of Parks and Recreation (371)
Eric Becker, San Diego Regional Water Quality Control Board
California Department of Fish and Wildlife, South Coast Region, Kelly Fisher
California Coastal Commission, San Diego District, Alex Llerandi

County of San Diego
Vector Control (63)
Air Pollution Control District (65)
Planning and Development Services (68)
Parks and Recreation Department (69)
Department of Public Works (70)
County Water Authority (73)
Hazardous Materials Management Division (75)
Department of Environmental Health – Land and Water Division (76)

City of San Diego
Mayor's Office
Council President Gomez, District 9
Council President Pro Tem Bry, District 1
Councilmember Campbell, District 2
Councilmember Ward, District 3
Councilmember Montgomery, District 4
Councilmember Kersey, District 5
Councilmember Cate, District 6
Councilmember Sherman, District 7
Councilmember Moreno, District 8

Office of the City Attorney
Davin Widgerow, Deputy City Attorney

Planning Department
Mike Hansen, Director
Tom Tomlinson, Assistant Director
Alyssa Muto, Deputy Director
Heidi Vonblum, Program Manager
Kristen Forburger, Development Project Manager
Myra Herrmann, Senior Environmental Planner

Transportation & Storm Water Department (Applicant)
Kris McFadden, Director
Gene Matter, Assistant Director
Andrew Kleis, Deputy Director
Christine Rothman, Development Project Manager
Anne Jarque, Senior Planner
Mayra Medel, Senior Planner

Development Services Department
Gary Geiler, Deputy Director
PJ Fitzgerald, Assistant Deputy Director
Anna McPherson, Program Manager
Raynard Abalos, Program Manager
Catherine Rom, Development Project Manager
Sam Johnson, Senior Planner
Mark Brunette, Senior Planner
Emma Haggerty, Associate Planner
Anita Eng, Biologist III

Communications Department
Anthony Santacroce

Environmental Services Department
Lisa Wood, Program Manager

Park and Recreation Department
Jeannette DeAngelis, Deputy Director – Open Space Division
Laura Ball

Public Utilities Department
Keli Balo, Program Manager
Nicole McGinnis, Project Officer II

Public Works Department
Carrie Purcell, Assistant Deputy Director
James Arnhart, Project Officer II

Real Estate Assets Department
Cybele Thompson, Director

City Libraries
Central Library, Government Documents (81 & 81A)
Balboa Branch Library (81B)
Beckwourth Branch Library (81 C)
Benjamin Branch Library (81D)
Carmel Mountain Ranch Branch (81 E)
Carmel Valley Branch Library (81 F)
City Heights/Weingart Branch Library (81G)
Clairemont Branch Library (81 H)
College-Rolando Branch Library (81 I)
Kensington-Normal Heights Branch Library (81K)
La Jolla/Riford branch Library (81 L)
Linda Vista Branch Library (81 M)
Logan Heights Branch Library (81 N)
Malcolm X Library & Performing Arts Center (810)
Mira Mesa Branch Library (81P)
Mission Hills Branch Library (81 Q)
Mission Valley Branch Library (81 R)
North Clairemont Branch Library (81 S)
North Park Branch Library (81 T)
Oak Park Branch Library (81 U)
Ocean Beach Branch Library (81 V)
Otay Mesa-Nestor Branch Library (81 W)
Pacific Beach/Taylor Branch Library (81 V)
Paradise Hills Branch Library (81 Y)
Point Loma/Hervey Branch Library (81 Z)
Rancho Bernardo Branch Library (81AA)
Rancho Peñasquitos Branch Library (81BB)
READ/San Diego (81CC)
San Carlos Branch Library (81DD)
San Ysidro Branch Library (81 EE)
Scripps Miramar Ranch Branch Library (81 FF)
Serra Mesa Branch Library (81 GG)
Skyline Hills Branch Library (81 HH)
Tierrasanta Branch Library (81 II)
University Community Branch Library (81JJ)
North University Branch University (81JJJ)
University Heights Branch Library (81 KK)

City Advisory Committees and Boards
Wetlands Advisory Board
Community Forestry Advisory Board

Other City Governments
City of Chula Vista (94)
City of Coronado (95)
City of Del Mar (96)
City of El Cajon (97)
City of Escondido (98)
City of Imperial Beach
City of La Mesa (100)
City of Lemon Grove (101)
City of National City (102)
City of Poway (103)
City of Santee (104)
City of Solana Beach (105)

Other Agencies
County Water Authority (73)
SANDAG (108)
San Diego Unified Port District (109)
San Diego County Regional Airport Authority (110)
Metropolitan Transit System (112, 115)
San Diego Gas & Electric (114, 381)
San Dieguito River Park (116)

School Districts
Poway Unified School District (124)
SDUSD, Tony Raso (125)
San Dieguito Union High School District (126)
San Ysidro School District (127)
South Bay Unified School District (130)
San Diego City Schools (132)
San Diego Community College District (133)
UCSD Library (134)

Community Groups, Associations, Boards, and Committees
Community Planning Committee (194)
Balboa Park Committee (226 and 226A)
Black Mountain Ranch-Subarea I (226C)
Otay Mesa-Nestor Planning Committee (228)
Otay Mesa Planning Committee (235)
Clairemont Mesa Planning Committee (248)
Greater Golden Hill Planning Committee (259)
Serra Mesa Planning Committee (263A)
Kearney Mesa Community Planning Group (265)
Linda Vista Community Planning Committee (267)
La Jolla Community Planning Association (275)
City Heights Area Planning Committee (287)
Kensington-Talmadge Planning Committee (290)
Normal Heights Community Planning Committee (291)

Eastern Area Planning Committee (302)
North Bay Community Planning Committee (307)
Mira Mesa Community Planning Committee (310)
Mission Bay Park Committee (320)
Mission Beach Precise Planning Board (325)
Navajo Community Planners, Inc. (336)
Carmel Valley Community Planning Board (350)
Del Mar Mesa Community Planning Board (361)
North Park Planning Committee (363)
Ocean Beach Planning Board (367)
Old Town Community Planning Board (368)
Pacific Beach Community Planning Committee (375)
Pacific Highlands Ranch-Subarea III (377A)
Rancho Peñasquitos Planning Board (380)
Peninsula Community Planning Board (390)
Rancho Bernardo Community Planning Board (400)
Sabre Springs Community Planning Group (406B)
San Dieguito River Park Joint Power Authority (425A)
San Pasqual-Lake Hodges Planning Group (426)
San Ysidro Planning and Development Group (433)
Scripps Miramar Ranch Planning Group (437)
Miramar Ranch North Planning Committee (439)
Skyline Paradise Hills Planning Committee (443)
Torrey Hills Community Planning Board (444A)
Civic San Diego (448)
Southeastern San Diego Planning Committee (449)
Encanto Neighborhoods Community Planning Group (449A)
College Area Community Planning Board (456)
Malcolm A. Love Library, SDSU (457)
Tierrasanta Community Council (462)
Torrey Highlands – Subarea IV (467)
Torrey Pines Community Planning Board (469)
University City Community Planning Group (480)
Uptown Planners (498)

Town/Community Councils
Town Council Presidents Association (197)
Barrio Station, Inc. (241)
Downtown Community Council (243)
Harborview Community Council (245)
Clairemont Town Council (257)
Serra Mesa Community Council (264)
La Jolla Town Council (273)
Rolando Community Council (288)
Oak Park Community Council (298)
Darnell Community Council (306)
Mission Beach Town Council (326)
Mission Valley Community Council (328C)
San Carlos Area Council (338)
Carmel Mountain Ranch Community Council (344)
Ocean Beach Town Council, Inc. (367A)
Pacific Beach Town Council (374)

Rancho Peñasquitos Town Council (383)
Rancho Bernardo Community Council, Inc. (398)
San Dieguito Planning Group (412)
United Border Community Town Council (434)
Murphy Canyon Community Council (463)

Historical, Archaeological and Tribal Groups
Carmen Lucas (206)
South Coastal Information Center (210)
San Diego Historical Society (211)
San Diego Archaeological Center (212)
Save Our Heritage Organization (214)
Ron Chrisman (215)
Clint Linton (215B)
Frank Brown, Inter-Tribal Cultural Resource Council (216)
Campo Band of Mission Indians (217)
San Diego County Archaeological Society Inc. (218)
Native American Heritage Commission (222)
Kumeyaay Cultural Heritage Preservation (223)
Kumeyaay Cultural Repatriation Committee (225)

Native American Distribution
Barona Group of Capitan Grande Band of Mission Indians (225A)
Campo Band of Mission Indians (225B)
Ewiiaapaayp Band of Mission Indians (225C)
Inaja Band of Mission Indians (225D)
Jamul Indian Village (225E)
La Posta Band of Mission Indians (225F)
Manzanita Band of Mission Indians (225G)
Sycuan Band of Mission Indians (225H)
Viejas Group of Capitan Grande Band of Mission Indians (225I)
Mesa Grande Band of Mission Indians (225J)
San Pasqual Band of Mission Indians (225K)
Iipai Nation of Santa Ysabel (225L)
La Jolla Band of Mission Indians (225M)
Pala Band of Mission Indians (225N)
Pauma Band of Mission Indians (225O)
Pechanga Band of Mission Indians (225P)
Rincon Band of Luiseno Indians (225Q)
San Luis Rey Band of Luiseno Indians (225R)
Los Coyotes Band of Mission Indians (225S)

Other Interested Agencies, Organizations, and Individuals
Daily Transcript
San Diego Union-Tribune City Desk (140)
San Diego Chamber of Commerce (157)
Building Industry Association (158)
San Diego River Park Foundation (163)
San Diego River Coalition (164)
Sierra Club San Diego Chapter (165)
San Diego Canyonlands, Eric Bowlby (165A)
San Diego Natural History Museum (166)

San Diego Audubon Society (167)
Jim Peugh (167A, 324)
San Diego River Conservancy (168)
Environmental Health Coalition (169)
California Native Plant Society, San Diego Chapter (170)
San Diego Coastkeeper, Matt O'Malley (173)
Citizens Coordinate for Century 3 (179)
Endangered Habitats League, San Diego Chapter (182A)
Torrey Pines Association (186)
San Diego Tracking Team (187)
Tijuana River Natural Estuarine Reserve (229)
Theresa Acero (230)
San Diego County Parks Department (232)
City of Chula Vista OVRP Rep (233)
Janet Vadakkumcherry (236)
Balboa Avenue CAC (246)
Marion Bear Natural Park Recreation Council (253)
Tecolote Canyon CAC (254)
Friends of Tecolote Canyon (255)
Tecolote Canyon Rim Owner's Protection Association (256)
Friends of Switzer Canyon (260, 365)
Mary Johnson (263B/328B)
La Jolla Shores Association (272)
Theresa Quiroz (294)
City Heights Business Improvement Association Inc. (285)
William Jones – Citylink (296)
Fairmount Park Neighborhood Association (303)
John Stump (304)
Friends of Los Penasquitos Preserve, Inc. (313)
Surfers Tired of Pollution (318)
Debby Knight, Friends of Rose Canyon (320)
Mission Hills Association (327)
Friars Village HOA (328A)
Mary Johnson (328B)
San Diego River Conservancy (330A)
Friends of the Mission Valley Preserve (330B)
San Diego River Park Foundation (333, 335)
Mission Trails Regional Park CAC (341)
Diana Gordan (355)
Los Peñasquitos Lagoon Foundation, Mike Hastings (384)
Los Peñasquitos Canyon Preserve CAC (385)
San Dieguito Lagoon Committee (409)
San Dieguito River Park CAC (415)
Friends of San Dieguito River Valley (421)
San Dieguito River Valley Conservancy (422)
RVR PARC (423)
San Dieguito River Park JPA (425A)
Beeler Canyon Conservancy (436)
Jim Dawe (445)
Kathleen Harmon – Chair, Central Imperial PAC (452)
W. Anthony Fulton, Director – SDSU Facilities & Mgmt. (455)
Malcolm A. Love Library, SDSU (457)

Mission Trails Regional Park, Dorothy Leonard (465)
University City Community Assn. (486)
Hillside Protection Assn. (501)
Banker's Hill Canyon Assn. (502)
Allen Canyon Committee (504)
Cal-Sorrento LTD, Steve Higgens
San Diego State University, Dean Stanley Maloy
Leslie Reynolds, Groundworks
John Galbadon, Tijuana River Valley Equestrian Association
Bob Brown, San Diego State Foundation
Eric Elsen, San Diego State Foundation
Terri Ducey
Lee Peterson
George Navia
Willard & Georgia McNeil
Chikae Reed
Gloria Randall
Kathleen Culkin
Francisco Javier Brenes
Randal Densley
Betty Kuske
Jeffrey Freedman
Rosa Carbajal
Leonard Smith
Mary Pfleeger
Dale McKasson
Rodel Reyes
Javier Cortez
Janet Wiggins
William Babcock
Joella Smith
Angel Sabino
William Hadaya
Robert Knarr
Doraine B. Offerman
Gene Gardiner
Fr. Henry Rodriguez
Shawn Curtis
Mike Hennessy
John McCormack
Shere Purifoy
Larry Stirling
Mary Williams
Barbara Washburn
Samuel Wilson
Joan Conliff
Orlando Dona
Jerry Coates
Clarissa Falcon
Paul Draper
Dee Rich

Environmental Law Group - Varco & Rosenbaum LLP, Attn: S. Wayne Rosenbaum
Cooley LLP, Susan Wynn
Coastal Environmental Rights Foundation, Livia Borak
San Diegans for Open Government, Corey Briggs
Shute, Mihaly & Weinberger LLP, Carmen J. Borg, Laurel Impett, Deborah Keeth
Supporters Alliance for Environmental Responsibility (SAFER) c/o Lozeau Drury LLP
Vipul Joshi, Dudek (Consultant)
Carey Fernandes, Dudek (Consultant)

Draft Environmental Impact Report
for the
Municipal Waterways Maintenance Plan
San Diego, California
SCH #2017071022
Project #616992

Lead Agency:

The City of San Diego – Planning Department
Environment and Mobility Planning Division
9485 Aero Drive, MS 413
San Diego, California 92123

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024

NOVEMBER 2019

TABLE OF CONTENTS

SECTION **PAGE NO.**

ACRONYMS AND ABBREVIATIONS ..... ACR-I

1 EXECUTIVE SUMMARY 1-1
1.1 Introduction 1-1
1.2 Project Description and Location 1-1
1.3 Impacts Found Not to Be Significant 1-4
1.4 Future Environmental Review for Program-Level Activities 1-5
1.5 Summary of Environmental Effects and Mitigation 1-5
1.7 Areas of Known Controversy 1-6
1.6 Alternatives Selected for Consideration 1-6

2 INTRODUCTION 2-1
2.1 CEQA Project Objectives 2-1
2.2 CEQA Requirements 2-2
2.2.1 Notice of Preparation 2-2
2.2.2 EIR Adequacy 2-2
2.2.3 Draft EIR and Public Review 2-3
2.2.4 Final EIR and EIR Certification 2-3
2.3 EIR Format 2-3
2.4 Organization and Content of the EIR 2-5
2.5 Discretionary Actions and Approvals 2-6
2.6 Subsequent Approvals 2-7

3 ENVIRONMENTAL SETTING 3-1
3.1 Location 3-1
3.2 Physical Characteristics 3-1
3.2.1 Existing Regional Characteristics 3-1
3.2.2 Existing On-site Uses 3-2
3.3 Applicable Land Use Plans and Regulations 3-3

4 PROJECT DESCRIPTION 4-1
4.1 Project Location 4-1
4.2 Program Background 4-2
4.2.1 Previous Master Storm Water System Maintenance Program 4-3
4.2.2 Separate but Related Projects and Programs 4-4
4.3 Proposed Municipal Waterways Maintenance Plan 4-7
4.3.1 Objectives and Plan Development 4-7

TABLE OF CONTENTS (CONTINUED)

SECTION **PAGE NO.**

4.3.2 MWMP Maintenance and Repair Activities and Methods 4-9
4.3.3 Facility evaluation and Development of Project-and Program-Level Analysis 4-17
4.3.4 Project-Level Analysis (Facility Maintenance Plans) 4-19
4.3.5 Program-Level Analysis (Other Plan-wide Activities) 4-33
4.4 Implementation Procedures 4-36
4.4.1 Pre-Maintenance Planning 4-36
4.4.2 Resource Agency Permits and Authorizations 4-42
4.4.3 Compensatory Mitigation 4-51
4.4.4 Reporting 4-52
4.5 Alternatives Considered but Dismissed from Further Consideration 4-53
4.5.1 Off-Site Runoff Reduction (Low Impact Development) Alternative 4-53
4.5.2 Limited Frequency Maintenance Alternative 4-54
4.5.3 Alternative Engineering Alternative 4-54
4.5.4 Maintenance of Concrete-Lined Facilities Only Alternative 4-54
4.6 Alternatives Selected for Further Consideration 4-54
4.6.1 No Project/No Action Alternative (Alternative 1) 4-55
4.6.2 Reduced In-Stream Maintenance Alternative (Alternatve 2) 4-55
4.6.3 Limited Sediment Removal Alternative (Alternative 3) 4-55
4.6.4 Alternative Sediment Management Approach (Alternative 4) 4-55
4.6.5 Reduced Project Alternative (Alternative 5) 4-56

5.0 ENVIRONMENTAL ANALYSIS 5-1
5.0.1 Selection of Facilities Requiring a Facility Maintenance Plan 5-1
5.0.2 Technical Reports Covering Project-Level FMP List Only 5-3
5.0.3 Technical Reports Covering Facility Selection List 5-3
5.0.4 Technical Reports Using Representative Projects 5-3
5.0.5 Approach to Analysis of Programmatic Activities 5-4
5.1 Aesthetics/Visual Effects and Neighborhood Character 5.1-1
5.1.1 Introduction 5.1-1
5.1.2 Existing Conditions 5.1-2
5.1.3 Regulatory Setting 5.1-30
5.1.4 Thresholds of Significance 5.1-33
5.1.5 Impacts 5.1-33
5.1.6 Program-Level Analysis (Other MWMP Activities) 5.1-41

TABLE OF CONTENTS (CONTINUED)

SECTION **PAGE NO.**

5.1.7 Significance of Impact 5.1-43
5.1.8 Mitigation Measures 5.1-43
5.1.9 Significance After Mitigation 5.1-43
5.2 Air Quality and Odor 5.2-1
5.2.1 Introduction 5.2-1
5.2.2 Existing Conditions 5.2-1
5.2.3 Regulatory Setting 5.2-12
5.2.4 Thresholds of Significance 5.2-18
5.2.5 Approach and Methodology 5.2-20
5.2.6 Impacts 5.2-24
5.2.7 Program-Level Analysis (Other MWMP Activities) 5.2-33
5.2.8 Significance of Impact 5.2-35
5.2.9 Mitigation Measures 5.2-36
5.2.10 Significance after Mitigation 5.2-36
5.3 Biological Resources 5.3-1
5.3.1 Introduction 5.3-1
5.3.2 Existing Conditions 5.3-1
5.3.3 Regulatory Setting 5.3-6
5.3.4 Thresholds of Significance 5.3-19
5.3.5 Approach and Methodology 5.3-20
5.3.6 Impacts 5.3-34
5.3.7 Program-Level Analysis (Other MWMP ACtivities) 5.3-56
5.3.8 Significance of Impact 5.3-69
5.3.9 Mitigation Measures 5.3-70
5.3.10 Significance After Mitigation 5.3-82
5.4 Greenhouse Gas Emissions 5.4-1
5.4.1 Introduction 5.4-1
5.4.2 Existing Conditions 5.4-1
5.4.3 Regulatory Setting 5.4-9
5.4.4 Thresholds of Significance 5.4-23
5.4.5 Approach and Methodology 5.4-25
5.4.6 Impacts 5.4-28
5.4.7 Program-Level Analysis (Other MWMP Activities) 5.4-35
5.4.8 Significance of Impact 5.4-36
5.4.9 Mitigation Measures 5.4-36

TABLE OF CONTENTS (CONTINUED)

SECTION **PAGE NO.**

5.4.10 Significance after Mitigation 5.4-36
5.5 Health and Safety/Hazards 5.5-1
5.5.1 Introduction 5.5-1
5.5.2 Existing Conditions 5.5-1
5.5.3 Regulatory Setting 5.5-11
5.5.4 Thresholds of Significance 5.5-17
5.5.5 Approach and Methodology 5.5-17
5.5.6 Impacts 5.5-19
5.5.7 Program-Level Analysis (Other MWMP Activities) 5.5-26
5.5.8 Significance of Impact 5.5-27
5.5.9 Mitigation Measures 5.5-28
5.5.10 Significance of Impact After Mitigation 5.5-28
5.6 Historical, Archaeological, and Tribal Cultural Resources 5.6-1
5.6.1 Introduction 5.6-1
5.6.2 Existing Conditions 5.6-2
5.6.3 Regulatory Setting 5.6-21
5.6.4 Thresholds of Signifigance 5.6-34
5.6.5 Approach and Methodologies 5.6-35
5.6.6 Impacts 5.6-35
5.6.7 Program-Level Analysis (Other MWMP Activities) 5.6-62
5.6.8 Significance of Impact 5.6-64
5.6.9 Mitigation Measures 5.6-64
5.6.10 Significance After Mitigation 5.6-79
5.7 Hydrology 5.7-1
5.7.1 Introduction 5.7-1
5.7.2 Existing Conditions 5.7-1
5.7.3 Regulatory Setting 5.7-11
5.7.4 Thresholds of significance 5.7-12
5.7.5 Approach and Methodology 5.7-12
5.7.6 Impacts 5.7-14
5.7.7 Program-Level Analysis (Other MWMP Activities) 5.7-19
5.7.8 Significance of Impacts 5.7-20
5.7.9 Mitigation Measures 5.7-21
5.7.10 Significance of Impact After Mitigation 5.7-21

TABLE OF CONTENTS (CONTINUED)

SECTION **PAGE NO.**

5.8 Land Use 5.8-1
5.8.1 Introduction 5.8-1
5.8.2 Existing Conditions 5.8-2
5.8.3 Regulatory Setting 5.8-2
5.8.4 Thresholds of Significance 5.8-12
5.8.5 Approach and Methodology 5.8-21
5.8.6 Impacts 5.8-24
5.8.7 Program-Level Analysis (Other MWMP Activities) 5.8-92
5.8.8 Significance of Impact 5.8-93
5.8.9 Mitigation Measures 5.8-94
5.8.10 Significance After Mitigation 5.8-94
5.9 Noise 5.9-1
5.9.1 Introduction 5.9-1
5.9.2 Fundamentals of Noise and Vibration 5.9-1
5.9.3 Existing Conditions 5.9-5
5.9.4 Regulatory Setting 5.9-7
5.9.5 Thresholds of Significance 5.9-10
5.9.6 Approach and Methodology 5.9-10
5.9.7 Impacts 5.9-23
5.9.8 Program-Level Analysis (Other MWMP Activities) 5.9-28
5.9.9 Significance of Impact 5.9-29
5.9.10 Mitigation Measures 5.9-29
5.9.11 Significance After Mitigation 5.9-31
5.10 Paleontological Resources 5.10-1
5.10.1 Introduction 5.10-1
5.10.2 Existing Conditions 5.10-2
5.10.3 Regulatory Setting 5.10-11
5.10.4 Thresholds of Significance 5.10-12
5.10.5 Approach and Methodology 5.10-12
5.10.6 Impacts 5.10-13
5.10.7 Program-Level Analysis (Other MWMP Activities) 5.10-15
5.10.8 Significance of Impact 5.10-16
5.10.9 Mitigation Measures 5.10-16
5.10.10 Significance After Mitigation 5.10-16

TABLE OF CONTENTS (CONTINUED)

SECTION **PAGE NO.**

5.11 Solid Waste 5.11-1
5.11.1 Introduction 5.11-1
5.11.2 Existing Conditions 5.11-1
5.11.3 Regulatory Setting 5.11-2
5.11.4 Thresholds of Significance 5.11-6
5.11.5 Approach and Methodology 5.11-6
5.11.6 Impacts 5.11-8
5.11.7 Program-Level Analysis (Other MWMP Activities) 5.11-16
5.11.8 Significance of Impact 5.11-16
5.11.9 Mitigation Measures 5.11-17
5.11.10 Significance After Mitigation 5.11-17
5.12 Water Quality 5.12-1
5.12.1 Introduction 5.12-1
5.12.2 Existing Conditions 5.12-1
5.12.3 Regulatory Setting 5.12-11
5.12.4 Thresholds of Significance 5.12-21
5.12.5 Approach and Methodology 5.12-22
5.12.6 Impacts 5.12-22
5.12.7 Program-Level Analysis (Other MWMP Activities) 5.12-30
5.12.8 Significance of Impact 5.12-32
5.12.9 Mitigation Measures 5.12-32
5.12.10 Significance of Impact After Mitigation 5.12-33

6 CUMULATIVE IMPACTS 6-1
6.1 Plans, Programs, and Projects Evaluated for Cumulative Impacts 6-2
6.2 Cumulative Impact Analysis 6-2
6.2.1 Aesthetics/Visual Effects and Neighborhood Character 6-23
6.2.2 Air Quality and Odor 6-25
6.2.3 Biological Resources 6-28
6.2.4 Greenhouse Gas Emissions 6-30
6.2.5 Health and Safety/Hazards 6-31
6.2.6 Historical, Archaeological, And Tribal Cultural Resources 6-32
6.2.7 Hydrology 6-33
6.2.8 Land Use 6-34
6.2.9 Noise 6-36

TABLE OF CONTENTS (CONTINUED)

SECTION **PAGE NO.**

6.2.10 Paleontological Resources 6-36
6.2.11 Solid Waste 6-37
6.2.12 Water Quality 6-38

7 EFFECTS NOT FOUND TO BE SIGNIFICANT 7-1
7.1 Aesthetics/Visual Effects and Neighborhood Character 7-1
7.2 Agricultural Resources 7-1
7.3 Air Quality and Odor 7-2
7.4 Energy 7-3
7.5 Geologic Conditions 7-4
7.6 Growth Inducement 7-5
7.7 Health and Safety/ Hazards 7-6
7.8 Hydrology 7-7
7.9 Land Use 7-7
7.10 Mineral Resources 7-9
7.11 Noise 7-9
7.12 Public Services and Facilities 7-10
7.13 Public Utilities 7-11
7.14 Transportation, Circulation, and Parking 7-12

8 ALTERNATIVES 8-1
8.1 Introduction 8-1
8.2 Factors in the Selection of Alternatives Project Objectives 8-2
8.2.1 Avoid or Reduce a Significant Impact 8-2
8.2.2 Feasibility 8-3
8.2.3 Project Objectives 8-3
8.2.4 Required Alternatives 8-4
8.3 Alternatives Considered but Rejected from Further Consideration 8-4
8.3.1 Off-site runoff reduction (Low-Impact Development) Alternative 8-4
8.3.2 Limited Frequency Maintenance Alternative 8-5
8.3.3 Alternative Engineering Design 8-6
8.3.4 Maintenance of Concrete-Lined Facilities Only Alternative 8-7
8.4 Alternatives Selected for Further Consideration 8-7
8.4.1 No Project/No Action Alternative (Alternative 1) 8-7
8.4.2 Reduced in-stream Maintenance Alternative (AlternatIve 2) 8-8
8.4.3 Limited Sediment Removal Alternative (Alternative 3) 8-9

TABLE OF CONTENTS (CONTINUED)

SECTION **PAGE NO.**

8.4.4 Alternative Sediment Management Approach (Alternative 4) 8-10
8.4.5 Reduced Project Alternative (Alternative 5) 8-11
8.5 Comparison of Environmental Effects 8-12
8.6 Environmentally Superior Alternative 8-14

9 MANDATORY DISCUSSION AREAS 9-1
9.1 Significant Effects That Cannot Be Avoided 9-1
9.2 Significant Irreversible Environmental Changes that Cannot be Avoided if the Project Is Implemented 9-2
9.3 Growth-Inducing Impacts 9-3

10 REFERENCES 10-1
10.1 Executive Summary 10-1
10.2 Introduction 10-1
10.3 Project Description 10-1
10.4 Aesthetics/Visual Effects and Neighborhood Character 10-3
10.5 Air Quality and Odor 10-4
10.6 Biological Resources 10-6
10.7 Greenhouse Gas Emissions 10-7
10.8 Health and Safety/Hazards 10-10
10.9 Historical, Archaeological, and Tribal Cultural Resources 10-11
10.10 Hydrology 10-15
10.11 Land Use 10-17
10.12 Noise 10-20
10.13 Paleontological Resources 10-21
10.14 Solid Waste 10-22
10.15 Water Quality 10-24
10.16 Cumulative Impacts 10-28
10.17 Effects Not Found to Be Significant 10-30
10.18 Comparison of Alternatives 10-30

11 LIST OF PREPARERS 11-1
11.1 City of San Diego 11-1
11.2 Dudek 11-2
11.3 Michael Baker International 11-2

TABLE OF CONTENTS (CONTINUED)

PAGE NO.

APPENDICES

A Municipal Waterways Maintenance Plan
B NOP and Comment Letters
C Air Quality and Greenhouse Gas Emissions Analysis Technical Report
D Biological Resources Technical Report
E Historical Resources Inventory Report
F Cultural Resources Inventory Report
G Noise Analysis Technical Report
H Paleontological Resources Inventory Report
I Hydrology & Hydraulics Technical Report
J Water Quality Technical Analysis Report
K Selection of Representative Projects
L Environmental Data Resources Database Search

FIGURES

3-1 Regional Map....3-5
3-2 Vicinity Map....3-7
4-1 City of San Diego Transportation & Storm Water Department Holistic Approach....4-57
4-2 City-Wide Overview/Index Map....4-59
4-2a San Dieguito River Watershed....4-61
4-2b Los Peñasquitos Watershed....4-63
4-2c Mission Bay Watershed....4-65
4-2d San Diego River Watershed....4-67
4-2e Pueblo San Diego Watershed....4-69
4-2f Sweetwater Watershed....4-71
4-2g Otay Watershed....4-73
4-2h.1 Tijuana River Watershed....4-75
4-2h.2 Tijuana River Watershed....4-77
4-3 Municipal Waterways Maintenance Plan Components....4-79
4-4 Facility Maintenance Plan Development....4-81
4-5 Operations and Maintenance Plan Work Flow....4-83
5.1-1a MWMP Facility Groups Visible from Community Plan Identified Public Vantage Points....5.1-45
5.1-1b MWMP Facility Groups Visible from Community Plan Identified Public Vantage Points....5.1-47
5.1-1c MWMP Facility Groups Visible from Community Plan Identified Public Vantage Points....5.1-49

TABLE OF CONTENTS (CONTINUED)

PAGE NO.

5.9-1 City-Wide Overview/Index Map Noise Sensitive Receptors and Measurement Locations 5.9-33
5.9-2 San Dieguito River Watershed 5.9-35
5.9-3 Los Peñasquitos Watershed 5.9-37
5.9-4 Mission Bay Watershed 5.9-39
5.9-5 San Diego River Watershed 5.9-41
5.9-6 Pueblo San Diego and Sweetwater Watersheds 5.9-43
5.9-7 Tijuana River Watershed (Sheet 1) 5.9-45
5.9-8 Tijuana River Watershed (Sheet 2) 5.9-47
5.12-1a Location of 303(d) Listed Water Bodies and MWMP Maintenance Facilities (Sheet 1) 5.12-37
5.12-1b Location of 303(d) Listed Water Bodies and MWMP Maintenance Facilities (Sheet 2) 5.12-39
5.12-1c Location of 303(d) Listed Water Bodies and MWMP Maintenance Facilities (Sheet 3) 5.12-41

TABLES

ES-1 Impacts and Proposed Environmental Protocols and Mitigation 1-9
2-1 Discretionary Actions and Approvals 2-6
2-2 Development Services Department Subsequent MWMP Process Flow Chart 2-9
4-1 Watershed Management Areas and Hydrologic Units in the City of San Diego and MWMP Watersheds 4-2
4-2 Proposed Channel and Ditch FMPs by Watershed, Substrate, and Coastal Zone 4-22
4-3 Basin Facility Maintenance Plans by Watershed 4-32
4-4 Proposed Structure Facility Maintenance Plan by Watershed 4-33
4-5 Inspection Score Factors 4-37
5.1-1 Community Plans and Identified Views, Scenic Vistas, and Public Vantage Points 5.1-5
5.2-1 SDAB Attainment Classification 5.2-8
5.2-2 Local Ambient Air Quality Data 5.2-10
5.2-3 Ambient Air Quality Standards 5.2-13
5.2-4 SDAPCD Air Quality Screening-Level Thresholds 5.2-18
5.2-5 Representative Maintenance and Repair Activities Summary 5.2-23
5.2-6 Estimated Maximum Daily Construction Emissions By Representative Project (Unmitigated) 5.2-30
5.2-7 Estimated Maximum Daily Construction Emissions from Concurrent Project Implementation (Unmitigated) 5.2-32
5.2-8 Estimated Maximum Daily Construction Emissions (Mitigated) 5.2-37

TABLE OF CONTENTS (CONTINUED)

PAGE NO.

5.3-1 Vegetation Communities and Land Cover Types in MWMP Study Area 5.3-2
5.3-2 Wildlife Diversity Within the MWMP Study Area 5.3-5
5.3-3 Significance of Impacts to Vegetation Communities and Jurisdictional Resources 5.3-23
5.3-4a Sensitive Plant Species by Mitigation Type 5.3-24
5.3-4b Sensitive Wildlife Species by Mitigation Type 5.3-27
5.3-5 Potentially Significant Impacts to Vegetation Communities 5.3-36
5.3-6 Summary of Compliance with Wetland Deviation Requirements Under Land Development Code Essential Public Project Option 5.3-55
5.3-7 CEQA Analysis of the Impacts of Implementing MWMP Required Compensatory Mitigation 5.3-61
5.3-8 Wetland Mitigation Ratios 5.8-72
5.3-9 Upland Mitigation Ratios 5.8-74
5.4-1 Greenhouse Gas Emissions Sources in California 5.4-5
5.4-2 Representative Maintenance Projects Summary 5.4-27
5.4-3 Estimated Annual Construction Emissions By Representative Project 5.4-30
5.4-4 Estimated Annual Construction GHG Emissions 5.4-30
5.4-5 Estimated Total Construction GHG Emissions 5.4-31
5.4-5 Estimated Total Construction GHG Emissions 5.4-31
5.5-1 Hazardous Materials Sites: Summary of Open Sites Within 1,000 feet of MWMP Facilities 5.5-3
5.6-1 Cultural Resources in MWMP Area of Potential Effect 5.6-15
5.6-2 Evaluation of Cultural Resources within the MWMP APE 5.6-19
5.6-3 Historical Resources in Area of Potential Effect 5.6-20
5.6-4 Archaeological Review Matrix 5.6-41
5.6-5 Non-Exempt Activities 5.6-48
5.6-6 Historical Resources Review Matrix 5.6-50
5.6-7 Program-Level Activities Exempt from Further Archaeological Review 5.6-63
5.7-1 City of San Diego Watershed Management Areas 5.7-3
5.7-2 San Dieguito River Watershed Management Area Summary Information 5.7-4
5.7-3 Los Peñasquitos Watershed Management Area Summary Information 5.7-5
5.7-4 Mission Bay Watershed Management Area Summary Information 5.7-6
5.7-5 San Diego River Watershed Management Area Summary Information 5.7-8
5.7-6 San Diego Bay Watershed Management Area Summary Information 5.7-9
5.7-7 Tijuana Watershed Management Area Summary Information 5.7-10
5.8-1 General, Community, and Park Plan Policy Evaluation 5.8-28

TABLE OF CONTENTS (CONTINUED)

PAGE NO.

5.8-2 Project Consistency Determination with MSCP Land Use Considerations 5.8-82
5.9-1 Typical Sound Levels in the Environment and Industry 5.9-2
5.9-2 MWMP Measured Noise Locations and Levels 5.9-6
5.9-3 Additional Measured Noise Levels 5.9-6
5.9-4 City of San Diego Applicable Limits 5.9-8
5.9-5 Representative Projects for Concrete-Lined Maintenance and Repair Activities 5.9-13
5.9-6 Representative Project 1 Assumptions – Concrete-Lined Facilities with 20% or More Vegetation Removal 5.9-14
5.9-7 Representative Project 2 Assumptions – Concrete with Less Than 20% Vegetation Removal 5.9-15
5.9-8 Representative Project 3 Assumptions – Minor Concrete Repair 5.9-16
5.9-9 Representative Project 4 Assumptions – Major Concrete Repair 5.9-17
5.9-10 Representative Earthen-Bottom Maintenance and Repair Projects Summary 5.9-17
5.9-11 Representative Project 5 Assumptions – Earthen-Bottom Facilities Typical – 1 ..... 5.9-19
5.9-12 Representative Project 6 Assumptions – Earthen-Bottom Facilities Typical – 2 ..... 5.9-19
5.9-13 Representative Project 7 Assumptions – Earthen-Bottom Facilities Typical – 3 ..... 5.9-20
5.9-14 Representative Project 8 Assumptions – Earthen-Bottom Facilities Typical – 4 ..... 5.9-21
5.9-15 Representative Project 9 Assumptions – Typical Outlet and Inlet Structure 5.9-21
5.9-16 Representative Project 10 Assumptions – Tijuana River Smuggler's Gulch 5.9-22
5.9-17 Maintenance Noise Modeling Summary 5.9-25
5.10-1 Paleontological Resource Sensitivity Criteria 5.10-3
5.10-2 Paleontological Sensitivity of Geological Rock Units Underlying the MWMP APE 5.10-4
5.10-3 Paleontological Sensitivity in Earthen-Bottom Facilities 5.10-17
5.11-1 Solid Waste Handling Activity 5.11-12
5.12-1 City of San Diego Watershed Management Areas 5.12-2
5.12-2 Summary of Beneficial Uses by Watershed Management Area 5.12-3
5.12-3 Summary of 303(d) Listings by Watershed Management Area 5.12-5
5.12-4 MWMP Additional Beneficial Water Quality Activities 5.12-33
6-1 Plans, Programs, and Projects Used for the Cumulative Analysis 6-4
7-1 Construction Scenario Assumptions 7-13
8-1 Alternatives Impact Comparison 8-13

ACRONYMS AND ABBREVIATIONS

Acronym/ Abbreviation	Definition
µg	microgram
µg/m^3	microgram per cubic meter
AB	Assembly Bill
ADRP	Archaeological Data Recovery Program
ALUCP	Airport Land Use Compatibility Plan
AME	Archaeological Monitoring Exhibit
APE	Area of Potential Effect
APRM	Advanced Permittee Responsible Mitigation
ASBS	Areas of Special Biological Significance
BLA	boundary line adjustment
BMP	best management practice
BCME	Biological Construction Mitigation/Monitoring Exhibit
BTR	Biological Resources Technical Report
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Prevention
CalEEMod	California Emissions Estimator Model
CalOSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources Recycling and Recovery
CAP	Climate Action Plan
CARB	California Air Resources Board
CCA	California Coastal Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CH_4	methane
CIP	Capital Improvement Program
City	City of San Diego
CM	Construction Manager
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent

Acronym/ Abbreviation	Definition
County	County of San Diego
COZ	Coastal Overlay Zone
CRHR	California Register of Historical Resources
CRMTP	Cultural Resources Monitoring and Treatment Plan
CRPR	California Rare Plant Rank
CSVR	Consultant Site Visit Record
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DEH	Department of Environmental Health
DPM	diesel particulate matter
DSD	Development Services Department
DTSC	Department of Toxic Substances Control
EAS	Environmental Analysis Section
ED	Environmental Designee
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EO	Executive Order
EOC	Emergency Operations Center
EP	Environmental Protocol
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESD	City of San Diego Environmental Services Department
ESHL	Environmentally Sensitive Habitat Area
ESL	Environmentally Sensitive Lands
FEMA	Federal Emergency Management Agency
FMP	Facility Maintenance Plan
FR	Federal Register
GHG	greenhouse gas
GI	green infrastructure
H&H	hydrologic and hydraulic
HAP	hazardous air pollutant
HCFC	hydrochlorofluorocarbon
HEC-RAS	Hydrologic Engineering Center-River Analysis System
HFC	hydrofluorocarbon
HMCP	Hazardous Materials Contingency Plan
HMMD	Hazardous Materials Management Division
HMMP	Habitat Mitigation and Monitoring Plan
HU	Hydrologic Unit
I-	Interstate
IAMFLOC	Infrastructure Asset Management Functional Location
IMP	Individual Maintenance Plan
INRMP	Integrated Natural Resources Management Plan

Acronym/ Abbreviation	Definition
JRMP	Jurisdictional Runoff Management Plan
LCFS	Low Carbon Fuel Standard
LCP	Local Coastal Program
LDC	Land Development Code
LDM	Land Development Manual
LEA	Local Enforcement Agency
LID	low-impact development
LRDP	Long Range Development Plan
LUST	leaking underground storage tank
MBHS	Mission Bay High School
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
mg/m^3	milligrams per cubic meter
MHPA	Multi-Habitat Planning Area
MLD	Most Likely Descendant
MM	Mitigation Measure
MMC	Mitigation Monitoring Coordination
MMP	Master Storm Water System Maintenance Program
MMT	million metric tons
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
MS4	municipal separate storm sewer system
MSCP	Multiple Species Conservation Program
MT	metric ton
MWMP	Municipal Waterways Maintenance Plan
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCTD	North County Transit District
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO	nitric oxide
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	ozone
OPR	Office of Planning and Research
Pb	lead
PB	Pacific Beach

Acronym/ Abbreviation	Definition
PEIR	Program Environmental Impact Report
PFC	perfluorocarbon
PI	Principal Investigator
PM_{10}	particulate matter less than or equal to 10 microns in diameter; coarse
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter; fine
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	California Public Resources Code
QMB	qualified monitoring biologist
RAQS	Regional Air Quality Standards
RCNM	Roadway Construction Noise Model
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act
RE	Resident Engineer
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SANDAG	San Diego Association of Governments
SCIC	South Coastal Information Center
SCR	Substantial Conformance Review
SCS	Sustainable Communities Strategy
SD-OHS	County of San Diego Office of Homeland Security
SDAB	San Diego Air Basin
SDAPCD	San Diego County Air Pollution Control District
SDBG	San Diego Biology Guidelines
SDFD	San Diego Fire-Rescue Department
SDMC	San Diego Municipal Code
SDNHM	San Diego Natural History Museum
SDP	Site Development Permit
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_x	sulfur oxides
SR-	State Route
SRRE	Source Reduction And Recycling Element
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCR	tribal cultural resource
TMDL	total maximum daily load

Acronym/ Abbreviation	Definition
TSW	City of San Diego Transportation & Storm Water Department
USACE	U.S. Army of Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound
WDR	waste discharge requirement
WMA	Watershed Management Area
WMP	Waterways Maintenance Plan
WPCP	Water Pollution Control Plan
WQIP	Water Quality Improvement Plan
WQO	water quality objective

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

CHAPTER 1 EXECUTIVE SUMMARY

1.1 INTRODUCTION

This summary provides a brief synopsis of the project description, the results of the environmental analysis, and the alternatives considered within this Environmental Impact Report (EIR) for the proposed *Municipal Waterways Maintenance Plan* (MWMP). By necessity, this summary does not contain the extensive background and analysis found in the individual chapters of this EIR. Therefore, the reader should review the entire document to fully understand the MWMP and its environmental consequences.

The MWMP (Appendix A to this EIR) provides a comprehensive approach to identify and regulate maintenance and repair activities within open storm water facilities. It will govern future maintenance and repair activities needed for the City of San Diego's (City) storm water conveyance system to effectively convey flood water and provide for public safety and the protection of property. This EIR addresses the potential environmental effects of the activities, methods, and procedures that would guide the ongoing maintenance and repair of MWMP facilities throughout the City.

1.2 PROJECT DESCRIPTION AND LOCATION

Project Description

The City is responsible for evaluating and conducting maintenance and repair of the storm water conveyance system throughout much of the City. To maintain the system's effectiveness, the proposed MWMP (Appendix A) identifies specific activities, methods, and procedures that would guide ongoing maintenance and repair of facilities. The MWMP provides a comprehensive approach to identify and regulate maintenance and repair activities, primarily within open storm water facilities (i.e., those facilities located above ground and not within closed systems, such as pipes).

Maintenance and repairs are an important component of operating the storm water conveyance system and providing reliable flood risk reduction throughout the City. Many storm water facilities were originally designed to require ongoing maintenance and repair. For example, concrete-lined trapezoidal channels are often designed to convey the 100-year storm event. However, if sediment accumulates in the channels, and vegetation establishes within the sediment, the conveyance capacity is often reduced, and adjacent developed properties are at greater risk of flooding. In other cases, storm water facilities damaged during large storm events require repair (e.g., replacement of broken concrete lining or dislodged riprap) to continue to provide safe storm water conveyance according to the original facility design. Finally, there are areas of the City where development or conditions have changed within the watershed, resulting in greater or faster storm water flows than

predicted during the facility design, or the original design does not meet current standards. In these cases, a CIP project is often needed to address the potential flood risk that exists or erosion potential due to a design that no longer meets the needs of the surrounding area; however, maintenance (removal of accumulated vegetation and sediment) may help alleviate the flood risk on an interim basis until a CIP project is designed and constructed.

Council Policy 800-04 states that the City generally only accepts responsibility for maintenance or repair of public drainage facilities that are designed and constructed to City standards and are located within a public street or drainage easement dedicated to the City (City of San Diego 2012). The MWMP is intended to only include storm water facilities, specifically open channels, detention basins, and drain structures that the City's Transportation & Storm Water Department (TSW) has the responsibility to maintain. However, this responsibility is subject to verification at the time of maintenance and has not been verified for all facilities in the MWMP. In addition, Council Policy 700-44 encourages and establishes the responsibility for private property owners to implement flood control measures, such as the use of sandbags, to prevent and protect their property from flood damage (City of San Diego 1984).

Objectives

The following are the primary objectives of the MWMP:

1. Public safety and flood risk reduction
    - Protect life and property adjacent to, downstream, and upstream of affected channels from flooding and environmental degradation.
2. Responsiveness to reduce flood risk
    - Provide for timely and consistent routine operations and maintenance in the affected channels and associated storm water conveyance infrastructure.
3. Avoid, minimize, and/or mitigate potential effects to environmental resources
    - Avoid, minimize, and/or mitigate significant adverse environmental effects resulting from routine maintenance of storm water facilities.
    - Incorporate and adapt to water quality management strategies intended to protect water quality and address flooding impacts.
4. Proactive and timely approval process
    - Provide project-level analysis upfront to expedite subsequent authorizations for routine and preventive maintenance activities within storm water facilities.

- Identify a review-and-approval process to include additional storm water facilities and maintenance activities that follow the protocols and requirements of the MWMP.
- Reduce the need to conduct emergency maintenance during significant storm events by implementing preventive maintenance activities.

The objectives of the MWMP require the ability for TSW to be responsive to newly identified flood risks while also streamlining approvals for routine, preventive maintenance that reduces flood risks. To accomplish this, the MWMP identifies the following:

1. A range of plan-wide activities that may occur throughout the storm water system where flood risks may arise and that would be conducted in accordance with a regulatory framework identified under the MWMP and associated permits.
2. A list of Facility Maintenance Plan (FMPs) that provide specific details and requirements for the majority of facilities that are likely to require routine maintenance and repair.

Together, these two components provide operational flexibility while also providing specific, detailed analysis for the majority of anticipated maintenance and repair activities to streamline the review and approval process.

Project Location

Under City Charter Section 26.1 and Council Policy 800-04, the City is responsible for maintaining adequate drainage facilities to remove storm water runoff in an efficient, economic, and environmentally and aesthetically acceptable manner for the protection of property and life (see Figure 4-1, Regional Map, in Chapter 4, Project Description). The City's storm water conveyance system serves to convey storm water flows to protect the life and property of its citizens from potential flooding within the eight watersheds within the City (see Table 4-1 and Figure 4-2, Vicinity Map, in Chapter 4, Project Description).

Facilities covered within the MWMP would be distributed throughout the watersheds, with the highest concentration of facilities being in the San Diego River and Pueblo San Diego watersheds. Flood risk in these watersheds is higher due to lower or non-existent flood protection standards required at the time of development, as well as increase in runoff from the addition of impervious area from new development.

1.3 HISTORY OF PROJECT CHANGES

In 2016, TSW began developing the MWMP (previously referred to as the Waterways Maintenance Plan) to replace the former Master Storm Water System Maintenance Program and associated Final Recirculated Programmatic EIR, which became "null and void" as of September 2018. From lessons

learned with the former MMP, TSW comprehensively evaluated their storm water conveyance assets (i.e., facilities) in more detail and with preliminary engineering analysis to identify specific channels, ditches, storm drain structures (outlets/inlets), and basins that may require maintenance in the near future.

The Notice of Preparation (NOP) for the MWMP EIR was distributed on July 12, 2017. Public scoping meetings were held on July 25, 2017, at the Scripps Miramar Ranch Public Library, and on August 1, 2017, at the Colonel Irving Salomon San Ysidro Community Activity Center. TSW received written comments from regulatory agencies and other stakeholders during the 30-day public comment period, which are included as Appendix B of this EIR.

Since the NOP distribution, TSW has held outreach meetings in conjunction with the CEQA scoping meetings; met with regulatory agencies, stakeholders, and decision-makers; and refined the project to avoid and minimize potential impacts. In response to feedback from regulatory agencies and various stakeholders, the MWMP has been revised as follows:

- Reduced the miles of channel/ditch facility groups proposed for maintenance from 25 miles to 18 miles.
- Reduced the number of storm drain structure groups proposed for maintenance from 23 groups to 10 groups.
- Added six basin groups to the list of facilities proposed for maintenance.
- Included a program-level analysis and process to address other storm water assets or facilities that are not analyzed at the project-level, as well as certain plan-wide maintenance activities that may also be implemented under the MWMP.
- Changed the project name from Waterways Maintenance Plan to Municipal Waterways Maintenance Plan.

1.4 IMPACTS FOUND NOT TO BE SIGNIFICANT

Impacts from the MWMP found not to be significant in this EIR are as follows: light, glare, and shading; agricultural resources; air quality – substantial alteration of air movement; energy; geologic conditions;[1] growth inducement; health and safety hazards – proximity to airport, and interference with emergency response plan; hydrology – flooding, tsunami, or seiche; land use – physically divide an established community and compatibility with airport land use plan; mineral resources; noise – incompatibility with aircraft noise; public services; public utilities; and transportation and traffic. These issue areas were analyzed in Section 7, Effects Not Found to be Significant.

[1] Although impacts associated with geologic conditions were found to be less than significant, an Environmental Protocol (EP) GEO-1 has been included to ensure bank stabilization when bank repairs are necessary.

1.5 FUTURE ENVIRONMENTAL REVIEW FOR PROGRAM-LEVEL ACTIVITIES

The Site Development Permit and Coastal Development Permit would allow for implementation of the MWMP using the subsequent review process outlined in Table 2-2, Development Services Department Subsequent MWMP Process Flow Chart, in Chapter 2, Introduction. Subsequent activities outside the coastal overlay zone that are analyzed at the project level in this EIR would be authorized through Substantial Conformance Review Process One (City of San Diego Land Development Code Section 126.0101). Subsequent review of MWMP activities located inside of the coastal overlay zone that are analyzed at the project level in this EIR would be authorized through Substantial Conformance Review Process Two to provide an opportunity for public appeal of the decision to the City Council and California Coastal Commission (City of San Diego Land Development Code Section 126.0707).

For programmatic activities (e.g., MWMP amendments to add/substantially amend Facility Management Plans, compensatory mitigation sites, or emergency maintenance) where the environmental impacts of those activities are sufficiently addressed in the MWMP EIR, Substantial Conformance Review Process Two would be required. The City of San Diego Land Development Code guarantees a minimum of 11 business days after the Notice of Future Decision is mailed for residents and interested parties to submit comments (City of San Diego Land Development Code Section 112.0503). For activities not addressed in this MWMP EIR, a separate review, likely under a separate or amended Site Development Permit/Coastal Development would be required. Minor maintenance is described in Chapter 4 as being limited to activities that do not require discretionary approval or environmental review, and, therefore, would continue as is current practice. Minor maintenance activities are described in Chapter 4 and in the MWMP to comprehensively address storm water infrastructure maintenance and repair activities. Emergency activities may be initially authorized through established emergency procedures, but would require after-the-fact approvals in accordance with the appropriate process for that activity/facility.

1.6 SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION

This EIR addresses the following major environmental issues: aesthetics/visual effects and neighborhood character; air quality and odor; biological resources; greenhouse gas (GHG) emissions; health and safety/hazards; historical, archaeological, and tribal cultural resources; hydrology; land use; noise; paleontological resources; solid waste; and water quality. The analyses and conclusions for each environmental issue are found in Sections 5.1 through 5.12. The environmental effects discussed in Sections 5.1 through 5.12 are summarized in Table ES-1. In addition, Table ES-1 identifies the Environmental Protocols (EPs) mitigation measures (MMs) included in Sections 5.1 through 5.12 that would help to reduce impacts. Full text of EPs and MMs are provided in Sections 5.1 through 5.12. The table also indicates whether implementation of the EPs would adequately prevent significant impacts, and/or MMs would reduce impacts to below a level of significance.

As concluded in Chapter 5, impacts to health and safety hazards, paleontological resources, GHG, hydrology, and land use would be less than significant with implementation of EPs. Impacts to aesthetics/visual effects and neighborhood character; air quality and odor; historical, archaeological, and tribal cultural resources; and noise, would be less than significant with implementation of MMs. Lastly, impacts to biological resources, solid waste, water quality would be significant and unavoidable. Significant and unavoidable cumulatively considerable impacts would also occur in these three issue areas as well.

1.7 AREAS OF KNOWN CONTROVERSY

Public scoping meetings were held on July 25, 2017, at the Scripps Miramar Ranch Public Library, and on August 1, 2017, at the Colonel Irving Salomon San Ysidro Community Activity Center, to gather additional public input. Comments received during the Notice of Preparation (NOP) public scoping period and meetings were considered during the preparation of this EIR. A public workshop was also held on July 13, 2016, at the Malcom X Library. Comment letters received during the NOP public scoping period expressed concern about the existing storm drain system being unable to handle runoff, impacts to biological resources/wetlands, impacts to water quality, potential upstream and/or downstream flooding, and the need to integrate channel maintenance with downstream restoration and enhancement. These concerns have been identified as areas of known controversy and are also analyzed in Chapter 6, Cumulative Impacts, of this EIR. The NOP, scoping letter, and other NOP public comments are included as Appendix B of this EIR.

1.8 ALTERNATIVES SELECTED FOR CONSIDERATION

This section contains a description of each alternative considered in this EIR. The purpose of the evaluation of alternatives in an EIR, as stated in Section 15126.6(c) of the California Environmental Quality Act (CEQA) Guidelines, is to ensure that "the range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects" identified under a proposed project. Pursuant to CEQA Guidelines Section 15126.6, an analysis of alternatives to the City's MWMP is presented in Chapter 8 of this EIR. The following alternatives were analyzed therein:

- No Project Alternative (Alternative 1)
- Reduced In-Stream Maintenance Alternative (Alternative 2)
- Limited Sediment Removal Alternative (Alternative 3)
- Alternative Sediment Management Approach (Alternative 4)
- Reduced Project Alternative (Alternative 5)

The table below from Chapter 8 (Table 8-1) provides a comparison of the environmental effects of the MWMP Alternatives relative to the proposed MWMP. The table identifies the significance of impacts prior to implementation of feasible mitigation measures. Where the table shows a reduction in impact but not avoidance (reduced to less than significant), the same MMs or EPs would apply to that alternative that are identified for the proposed MWMP.

All of the alternatives analyzed would reduce one or more potentially significant impacts. The No Project/No Action Alternative (Alternative 1) would result in the least reduction of impacts, since the activities proposed under the MWMP would still occur on a project-by-project basis. The Reduced In-Stream Maintenance (Alternative 2) and Alternative Sediment Management (Alternative 4) would reduce some impacts, but likely would result in greater impacts to either aesthetics/visual resources and neighborhood character, or biological resources due to the need for additional access areas. Comparing the Limited Sediment Removal Alternative (Alternative 3) and Reduced Project Alternative (Alternative 5), Alternative 3 would result in a greater reduction of significant impacts, including biological resources and solid waste. However, hydrology impacts would be increased under Alternative 3 due to increased risk of erosion in earthen-bottom facilities where vegetation would be removed but sediment would not be removed. Under Alternative 5, impacts to hydrology would be mixed; the facilities excluded from maintenance would have less potential for erosion but increased risk of flooding. Therefore, the Reduced Project Alternative (Alternative 5) is the environmentally superior alternative because it would result in the least environmental impacts while avoiding the potential increases in hydrology impacts associated with Alternative 3.

Although Alternative 5 would be the environmentally superior alternative, impacts associated with hydrology and water quality would have some increases under this alternative compared to the proposed MWMP. By avoiding maintenance within the identified four facility groups, this alternative would increase the flood risk in areas surrounding these facilities. Life and property would be at risk in these locations during flood events, and the potential for water quality degradation would be increased when flood waters exceed the channel capacity and potentially transport pollutants downstream. Therefore, this alternative would not fully achieve the objectives of the MWMP, which are aimed to reduce flooding and protect life and property.

Table 8-1
Alternatives Impact Comparison

Issue Area	Proposed MWMP	Alternative 1: No Project/No Action	Alternative 2: Reduced In-Stream Maintenance	Alternative 3: Limited Sediment Removal	Alternative 4: Alternative Sediment Management	Alternative 5: Reduced Project
Aesthetics/Visual Effects and	LTS	=	+	=	–	–

Table 8-1
Alternatives Impact Comparison

Issue Area	Proposed MWMP	Alternative 1: No Project/No Action	Alternative 2: Reduced In-Stream Maintenance	Alternative 3: Limited Sediment Removal	Alternative 4: Alternative Sediment Management	Alternative 5: Reduced Project
Neighborhood Character						
Air Quality and Odor	S	–	=	=	=	=
Biological Resources	SU	=	+/-	–	+	–
Greenhouse Gas Emissions	LTS	=	=	=	=	=
Health and Safety Hazards	LTS	=	=	=	=	=
Historical/ Archaeological/Tribal Cultural Resources	S	=	=	=	=	=
Hydrology	LTS	+/-	+/-	+	+	+/-
Land Use	S	=	+	=	=	=
Noise	S	=	=	=	=	=
Paleontological Resources	LTS	=	=	=	=	=
Solid Waste	SU	=	=	–	–	=
Water Quality	SU	+/-	+/-	+/-	+/-	+/-

LTS Less than significant impact (no mitigation proposed)
S Potentially significant impact (prior to mitigation)
SU Significant unavoidable (following mitigation)
+ Impact would be greater than the proposed MWMP
– Impact would be less than the proposed MWMP
+/– Some impacts would be reduced, but other impacts would be greater than the MWMP
= No change. The same impact as the Proposed MWMP

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
Aesthetics/Visual Effects and Neighborhood Character					
Issue 1: Would the project result in a substantial obstruction in any vista or scenic view from a public viewing area as identified in the community plan?	Project-Level *Municipal Waterways Maintenance Plan* (MWMP) activities would not substantially interrupt or obstruct any scenic vista, view, or public vantage point as identified in a community plan, including views to the Pacific Ocean, Mission and San Diego Bays, Chollas Creek, the San Diego River, parks, canyons, or mountains. In addition, MWMP activities would not substantially interrupt existing views to local view sensitive areas and landmarks that are near MWMP facilities. As such, impacts would be **less than significant**. Program-Level Compensatory mitigation sites may be visible from a community plan identified vista, scenic view, or public vantage point and may entail the introduction of new vegetation. Depending on location, new vegetation could result in substantial view blockage or interruption. Therefore, program-level activities (primarily consisting of construction of new compensatory mitigation sites) conducted under the MWMP that would entail the introduction of new vegetation would be **potentially significant** (**AES-1**).	N/A	**MM-AES-1.** Visual Analysis for Program Activities	Less than Significant with Mitigation	Less than Significant Cumulative Impact
Issue 2: Would implementation of the project result in a negative aesthetic site or result in substantial alteration to the existing or planned character of the area, such as could occur with the construction of a subdivision in a previously undeveloped area? **Issue 3**: Would the project result in bulk, scale, materials, or style which would be incompatible with surrounding development?	Project- level Routine maintenance of storm water facilities would not result in a negative aesthetic site because no new development would be proposed, and activities would only maintain and repair existing infrastructure. Routine maintenance, including vegetative management, sediment/debris removal, and infrastructure repairs, currently occurs and would not result in a negative aesthetic site or visual change that would substantially alter the character of the surrounding area or community. Activities that would result in strong contrast to the community character, such as the construction of incompatible development or new development in previously undeveloped and natural areas, would not be proposed under the MWMP. Lastly, no new uses or structures are proposed, and as such, MWMP activities would not result in bulk, scale, materials, or style that would be incompatible with surrounding development. Therefore, visual character and quality associated with implementation of the MWMP would be **less than significant**. Program-Level Regarding Issues 2 and 3, programmatic activities would result in similar visual effects as previously described for project-level activities. The visual effects associated with program-level activities would be noticeable to nearby residents or public users and would alter the characteristics displayed by in-facility vegetation. As with project-level activities, program-level activities would be focused in existing facilities and would not open up new areas for development. Further, program-level activities would not result in a substantial long-term contrast that would fundamentally and permanently alter the character of a particular area. Therefore, programmatic activities would not result in a negative aesthetic site, substantial alteration to the existing or planned character of the area, or incompatibility with surrounding development. Impacts would be **less than significant**.	N/A	N/A	Less than Significant	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
Issue 4: Would the project result in the loss of any distinctive or landmark tree(s), or stand of mature trees as identified in a community plan?	Project-Level and Program-Level Project-level and program-level activities would not result in the removal of a stand of mature trees, distinct trees, stand of mature trees, or landmark trees identified in a community plan. Impacts would be **less than significant**.	N/A	N/A	Less than Significant	Less than Significant Cumulative Impact
Issue 5: Would the project result in a substantial change to the existing landform or natural topography or other ground surface relief features through landform alteration?	Project- and Program Level Generally, the alteration of landforms or topography associated with MWMP activities would occur within low lying areas and would be overlooked by casual observers and would not represent a substantial visual change when viewed from public viewing locations. Furthermore, landform alterations associated with the MWMP would return existing facilities to their as-built or original design and would occur in areas that have been previously disturbed when the channel/ditch, basin or structure was created and/or from past maintenance events. Finally, as existing facilities are currently subject to similar landform alterations that would occur under the MWMP, the continuation of these activities would not result in substantial or new changes to natural topography of drainage facilities. Impacts would be **less than significant**.	N/A	N/A	Less than Significant	Less than Significant Cumulative Impact
Air Quality and Odor					
Issue 1: Would the project conflict with or obstruct implementation of the applicable air quality plan?	Project- and Program-Level The MWMP would not provide for residential development growth or local employment growth; therefore, the MWMP would not result in development in excess of that anticipated in local plans or increases in population/housing growth beyond those contemplated by the San Diego Association of Governments. As such, vehicle trip generation and planned development for the various MWMP-proposed maintenance activities is considered to be anticipated in the State Implementation Plan and regional air quality standards. Because the proposed MWMP activities and associated vehicle trips are anticipated in local air quality plans, the MWMP would be consistent at a regional level with the underlying growth forecasts in the regional air quality standards. Impacts as a result of project-level activities would be **less than significant**.	N/A	N/A	Less than Significant	Less than Significant Cumulative Impact
Issue 2: Would the project expose sensitive receptors to substantial pollutant concentrations?	Project- and Program-Level *Carbon Monoxide Hotspots* Individual proposed project- and/or program-level maintenance activities would be temporary and would not be a source of daily, long-term mobile-source emissions. Accordingly, project- and program-level MWMP activities would result in a **less than significant** impact to air quality with regard to potential carbon monoxide (CO) hotspots. *Toxic Air Contaminants* The MWMP would neither include sensitive land uses nor would it generate substantial short-term toxic air contaminant (TAC) concentrations or include long-term TAC sources on site that would impact potential sensitive land use receptors. Accordingly, the MWMP would not generate substantial TAC emissions that would conflict with surrounding sensitive receptors, and impacts would be **less than significant**.	N/A	**MM-AQ-1.** Tier 4 Interim Construction Equipment.	Less than Significant with Mitigation	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
	Health Impacts of Criteria Air Pollutants Because estimated emissions resulting from implementation of 10 concurrent maintenance activities would exceed the San Diego Air Pollution Control District (SDAPCD) screening-level threshold for NO_x construction, thus the MWMP could result in a **potentially significant** (**AQ-1**) contribution to regional concentrations of non-attainment pollutants, absent mitigation. Although MWMP implementation would generate NO_x emissions that would exceed the SDAPCD mass daily thresholds, MWMP-proposed maintenance activities are not anticipated to contribute to exceedances of the NAAQS and CAAQS for NO_2 because the SDAB is designated as in attainment of the NAAQS and CAAQS for NO_2, and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Health impacts that result from NO_2 and NO_x include respiratory irritation; however, because the majority of the MWMP activities would be short term activities, nearby receptors would not be exposed off-road equipment exhaust for a prolonged period of time. Therefore, potential health impacts associated with NO_2 and NO_x would be **less than significant**. CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots was determined to be a **less-than-significant** impact. Thus, the MWMP's CO emissions would not contribute to significant health effects associated with this pollutant. Construction activities associated with the MWMP would not exceed thresholds for PM_{10} or $PM_{2.5,}$ would not contribute to exceedances of the NAAQS and CAAQS for particulate matter, and would not obstruct the SDAB from coming into attainment for these pollutants. The MWMP would also not result in substantial DPM emissions during construction and, therefore, would not result in significant health effects related to DPM exposure. Because the minimal contribution of particulate matter during construction, health impacts would be **less than significant**. *Valley Fever Exposure* Based on the low incidence rate of Coccidioidomycosis in the MWMP area and in greater San Diego County, and the MWMP's implementation of dust control strategies, it is not anticipated that earth-moving activities during proposed maintenance activities would result in exposure of nearby sensitive receptors to Valley Fever. Therefore, the MWMP would have a **less than significant** impact with respect to Valley Fever exposure for sensitive receptors.				
Issue 3: Would the project result in other emissions (such as those leading to odors) adversely odors affecting a substantial number of people?	<u>Project- and Program-Level</u> Any other emissions (such as those leading to odors) associated with project-level MWMP maintenance activities would be temporary and would cease upon completion; therefore, impacts associated with other emissions (such as those leading to odors) would be **less than significant.**	N/A	N/A	Less than Significant	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
Issue 4: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	Project -Level The combined emissions of the 10 concurrent maintenance activities, which represent the maximum daily construction scenario, exceed the project-level SDAPCD significance threshold for NO_x prior to implementation of mitigation. Should other projects occur in the vicinity of the MWMP, significant effects related to NO_x emissions could be further intensified due to roadway emissions from motor vehicles proximate to many MWMP segments; therefore, this impact would be **potentially significant** (**AQ-2**), absent mitigation. Program-Level Program-level maintenance activities would take place at multiple locations concurrently. Air pollutant emissions would vary day-to-day as a result of how many maintenance activities are occurring at once. The maximum daily air pollutant emissions would exceed the City's NO_x threshold if four or more activities were occurring concurrently.[2] The combined emissions of the 10 concurrent maintenance activities (project- or program-level), which represent the maximum daily construction scenario, would exceed the SDAPCD significance threshold for NO_x prior to implementation of mitigation. Should other projects occur in the vicinity of the MWMP, significant effects related to NO_x emissions could be further intensified due to roadway emissions from motor vehicles proximate to many MWMP segments; therefore, this impact would be **potentially significant** (**AQ-2**), absent mitigation.	N/A	**MM-AQ-1.** Tier 4 Interim Construction Equipment.	Less than Significant with Mitigation	Less than Significant Cumulative Impact
	Biological Resources				
Issue 1: Would the proposal have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in the MSCP or other local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?	Direct Impacts within Previously Permitted Project Areas In all cases, the adequacy of one-time mitigation for the permanent loss associated with routine, ongoing maintenance has been previously established according to City, state, and federal regulations and long-term protection measures at each of those mitigation sites to ensure that biological resources restored and protected at those sites remain functional and sustainable. **EP-BIO-1** requires proof of mitigation for previously maintained facilities prior to repeat maintenance.	**EP-BIO-1.** FMP Preparation/ Verification	N/A	Less than Significant with EP	Less than Significant Cumulative Impact
	Direct Impacts within Newly Proposed Project Areas Direct impacts to sensitive vegetation communities (i.e., Tier I–III and Wetlands) and jurisdictional aquatic resources, including resources that may support sensitive species, within the areas not previously permitted (i.e., newly proposed) would be **potentially significant** (**BIO-1a** and **BIO-1b**), absent mitigation.	N/A	**MM-BIO-1a.** Compensatory Wetlands Mitigation **MM-BIO-1b.** Compensatory Upland Mitigation	Less than Significant After Mitigation	Less than Significant Cumulative Impact
	San Dieguito Watershed (Direct Project-Level) In the San Dieguito Watershed, proposed maintenance would result in a total of 0.40 acres of newly proposed significant direct impacts to jurisdictional aquatic resources, including wetland vegetation under the jurisdiction of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control	N/A	**MM-BIO-1a.** Compensatory Wetlands Mitigation	Less than Significant After Mitigation	Less than Significant Cumulative Impact

[2] This reflects a conservative estimate based on the four largest projects. Project-level activities are not expected to increase maximum daily or annual activities as those scenarios were based on the City's staff and equipment capacity.

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
	Board (RWQCB), California Department of Fish and Wildlife (CDFW), California Coastal Commission (CCC), and/or the City at two facility groups within the San Dieguito watershed. No significant direct impacts to sensitive upland vegetation communities is anticipated as a result of maintenance at these two facility groups. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant,** absent mitigation (**BIO-1a** and **BIO-2**). In the San Dieguito watershed, no sensitive plant species were observed during the 2019 focused surveys (or during previous biological surveys), or have moderate or high potential to occur within suitable habitat. Therefore, potential impacts to sensitive plant species would be **less than significant**. Six sensitive wildlife species have moderate potential to occur within the San Dieguito watershed study area. Impacts to these species would be **potentially significant,** absent mitigation (**BIO-1a**, **BIO-4,** and **BIO-6**).		**MM-BIO-2.** Unintended Impact Mitigations **MM-BIO-4.** Avoidance of Nesting Bird Impacts **MM-BIO-6.** Avoidance of Raptor Breeding Impacts		
	<u>Peñasquitos Watershed (Direct Project-Level)</u> In the Peñasquitos Watershed, proposed maintenance would result in a total of 1.74 acres of newly proposed and 1.64 acres of previously permitted significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City. Newly proposed maintenance would also result in a total of 0.07 acres of direct impacts to sensitive upland vegetation communities at one facility group and one structure within the Los Peñasquitos watershed. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant,** absent mitigation (**BIO-1a**, **BIO-1b**, and **BIO-2**). One sensitive plant species, southwestern spiny rush, would be directly impacted by maintenance activities within the 5-805 (Segment 1) facility basin. However, potential impacts to this CRPR 4 would be **less than significant**. No other sensitive plant species have a high or moderate potential to be permanently impacted as a result of the proposed maintenance within the facility segments. In the Los Peñasquitos watershed, there are six sensitive wildlife species that were either observed during the 2017 focused surveys or during previous biological surveys or that have a high potential to occur in suitable habitat within the limits of MWMP facility segment maintenance areas and, therefore, would be directly impacted by maintenance activities or by removal of this habitat. There are 10 sensitive wildlife species that have moderate potential to occur within the Los Peñasquitos watershed study area. Impacts to these species would be **potentially significant,** absent mitigation (**BIO-1a, BIO-1b, BIO-2, BIO-4**, **BIO-5**, and **BIO-6**).	N/A	**MM-BIO-1a.** Compensatory Wetlands Mitigation **MM-BIO-1b.** Compensatory Upland Mitigation **MM-BIO-2.** Unintended Impact Mitigations **MM-BIO-4.** Avoidance of Nesting Bird Impacts **MM-BIO-5.** Avoidance of Listed Species Take	Less than Significant After Mitigation	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
			MM-BIO-6. Avoidance of Raptor Breeding Impacts		
	<u>Mission Bay Watershed (Direct Project-Level)</u> In the Mission Bay Watershed, proposed maintenance would result in a total of 1.04 acres of newly proposed and 1.14 acres of previously permitted significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City. Newly proposed maintenance would also result in a total of 0.34 acres of direct impacts to sensitive upland vegetation communities at one facility group and one facility within the Mission Bay watershed. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant,** absent mitigation (**BIO-1a**, **BIO-1b**, and **BIO-2**). San Diego County viguiera has the potential to be directly impacted by maintenance activities within the Vickie (Segment 1) facility. However, this facility was previously permitted, and impacts to this CRPR 4 species would be **less than significant.** No other sensitive plant species have a high or moderate potential to be permanently impacted as a result of the proposed maintenance within the facility segments. In the Mission Bay watershed, there are two sensitive wildlife species that were either observed during focused surveys or have a high potential to occur in suitable habitat within the limits of MWMP facility segment maintenance areas and, therefore, would be directly impacted by maintenance activities or by removal of this habitat. Five sensitive wildlife species have moderate potential to occur within the Mission Bay watershed study area (see Appendix D). Impacts to these species would be **potentially significant,** absent mitigation (**BIO-1a, BIO-1b, BIO-2, BIO-4**, **BIO-5**, and **BIO-6**).	N/A	**MM-BIO-1a.** Compensatory Wetlands Mitigation **MM-BIO-1b.** Compensatory Upland Mitigation **MM-BIO-2.** Unintended Impact Mitigations **MM-BIO-4**. Avoidance of Nesting Bird Impacts **MM-BIO-5.** Avoidance of Listed Species Take **MM-BIO-6.** Avoidance of Raptor Breeding Impacts	Less than Significant After Mitigation	Less than Significant Cumulative Impact
	<u>San Diego River Watershed (Direct Project-Level)</u> In the San Diego River Watershed, proposed maintenance would result in a total of 1.47 acres of newly proposed and 1.93 acres of previously permitted significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City. Newly proposed maintenance would also result in a total of 0.05 acres of direct impacts to sensitive upland vegetation communities. Direct impacts to sensitive vegetation communities, which	N/A	**MM-BIO-1a.** Compensatory Wetlands Mitigation	Less than Significant After Mitigation	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
	may provide habitat for sensitive species, would be **potentially significant,** absent mitigation (**BIO-1a**, **BIO-1b**, and **BIO-2**). Five sensitive plant species would be directly impacted by maintenance activities: • singlewhorl burrobrush (CRPR 2B.2) within Mission Gorge (Segment 1), Murphy Canyon (Segment 1), and Baja (Segment 1) facilities; • southwestern spiny rush (CRPR 4.2) within Murphy Canyon (Segment 1) facility; • San Diego sagewort (CRPR 4.2) within Baja (Segment 1) facility; • San Diego County viguiera (CRPR 4.2) within Baja (Segment 1) facility; and • Nuttall's scrub oak (CRPR 1B.1) within Fairmount (Segment 1) and Fairmount (Segment 3) facilities. Impacts to CRPR 4 species would be **less than significant**. Impacts to singlewhorl burrobrush would also be **potentially significant**, absent habitat-based mitigation if unavoidable (**BIO-1a** and **BIO-1b**). Impacts to Nuttall's scrub oak would be **potentially significant**, absent species-specific mitigation, if unavoidable (**BIO-3**). No other sensitive plant species have a high or moderate potential to be permanently impacted as a result of the proposed maintenance within the facility segments. In the San Diego River watershed, there are seven sensitive wildlife species that were either observed during focused surveys or have a high potential to occur in suitable habitat within the limits of MWMP facility segment maintenance areas and, therefore, would be directly impacted by maintenance activities or by removal of this habitat. Six sensitive wildlife species have moderate potential to occur within the San Diego River watershed study area (see Appendix E of Appendix D). Impacts to these species would be **potentially significant**, absent mitigation (**BIO-1a, BIO-1b, BIO-2, BIO-4, BIO-5,** and **BIO-6**).		**MM-BIO-1b.** Compensatory Upland Mitigation **MM-BIO-2.** Unintended Impact Mitigations **MM-BIO-3**. Species Specific Sensitive Plant Mitigation **MM-BIO-4**. Avoidance of Nesting Bird Impacts **MM-BIO-5.** Avoidance of Listed Species Take **MM-BIO-6.** Avoidance of Raptor Breeding Impacts		
	<u>Pueblo San Diego Watershed (Direct Project-Level)</u> In the Pueblo San Diego Watershed, proposed maintenance would result in a total of 1.40 acres of newly proposed and 1.58 acres of previously permitted significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City. Newly proposed maintenance would also result in a total of 0.13 acres of direct impacts to sensitive upland vegetation communities and 0.31 acres of previously permitted significant direct impacts to sensitive upland vegetation communities at seven facility groups and eight facilities within the Pueblo San Diego watershed. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant,** absent mitigation (**BIO-1a**, **BIO-1b**, and **BIO-2**).	N/A	**MM-BIO-1a.** Compensatory Wetlands Mitigation **MM-BIO-1b.** Compensatory Upland Mitigation **MM-BIO-2.** Unintended	Less than Significant After Mitigation	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
	Four sensitive plant species would be directly impacted by maintenance activities: • singlewhorl burrobrush (CRPR 2B.2) within Home (Segment 2), Alpha (Segment 1), and Ocean View (Segment 1) facilities; • southwestern spiny rush (CRPR 4.2) within Federal (Segment 2) facility; • San Diego marsh-elder (CRPR 2B.2) within Alpha (Segment 1) facility; and • San Diego County viguiera (CRPR 4.2) within Ocean View (Segment 1) facility. Impacts to the CRPR 4 species would be **less than significant**. Impacts to singlewhorl burrobrush and San Diego marsh-elder would be **potentially significant**, absent habitat-based mitigation measures (**BIO-1a** and **BIO-1b**), if unavoidable. No other sensitive plant species have a high or moderate potential to be permanently impacted as a result of the proposed maintenance within the facility segments. In the Pueblo San Diego watershed, there are six sensitive wildlife species that were either observed during focused surveys or have a high potential to occur in suitable habitat within the limits of MWMP facility segment maintenance areas, and, therefore, would be directly impacted by maintenance activities or by removal of this habitat. Two sensitive wildlife species have moderate potential to occur within the Pueblo San Diego watershed study area (see Appendix E of Appendix D). Impacts to these species would be **potentially significant**, absent mitigation (**BIO-1a, BIO-1b, BIO-2, BIO-4, BIO-5,** and **BIO-6**).		Impact Mitigations **MM-BIO-4**. Avoidance of Nesting Bird Impacts **MM-BIO-5.** Avoidance of Listed Species Take **MM-BIO-6.** Avoidance of Raptor Breeding Impacts		
	<u>Sweetwater Watershed (Direct Project-Level)</u> The is only one facility in the Sweetwater watershed that has been previously permitted and would not result in significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City or significant direct impacts to sensitive upland vegetation. Therefore, maintenance would result in a **less-than-significant** loss of vegetation at this facility. In the Sweetwater watershed, there were no sensitive plant species observed during focused plant surveys in 2019 (or during previous biological surveys) or that have a high or moderate potential to occur in suitable habitat. Therefore, potential impacts to sensitive plant species would be **less than significant**. Four sensitive wildlife species have moderate potential to occur within the Sweetwater watershed study area (see Appendix E of Appendix D). Therefore, direct impacts to nesting birds and raptors, which were not observed but have potential to occur in suitable habitat within and adjacent to the facility segment maintenance areas, would be **potentially significant**, absent mitigation (**BIO-4** and **BIO-6**).	N/A	**MM-BIO-4**. Avoidance of Nesting Bird Impacts **MM-BIO-6.** Avoidance of Listed Species Take	Less than Significant After Mitigation	Less than Significant Cumulative Impact
	<u>Otay Watershed (Direct Project-Level)</u> In the Otay Watershed, proposed maintenance would result in 2.57 acres of newly proposed and 0.11 acres of previously permitted significant direct impacts to jurisdictional aquatic resources, including	N/A	**MM-BIO-1a.** Compensatory	Less than Significant After Mitigation	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
	wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City. No significant direct impacts to sensitive upland vegetation communities is anticipated as result of maintenance in this watershed. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant**, absent mitigation (**BIO-1a** and **BIO-2**). In the Otay watershed, there were no sensitive plant species observed during focused plant surveys in 2019 (or during previous biological surveys), or that have a high or moderate potential to occur in suitable habitat. Therefore, potential impacts would be **less than significant**. In the Otay watershed there are five sensitive wildlife species that were either observed during focused surveys or have a high potential to occur in suitable habitat within the limits of MWMP facility segment maintenance areas and, therefore, would be directly impacted by maintenance activities or by removal of this habitat. One sensitive wildlife species has moderate potential to occur within the Otay watershed study area (Appendix D). Impacts would be potentially significant, absent mitigation (**BIO-1a, BIO-1b, BIO-2, BIO-4, BIO-5,** and **BIO-6**).		Wetlands Mitigation **MM-BIO-1b.** Compensatory Upland Mitigation **MM-BIO-2.** Unintended Impact Mitigation **MM-BIO-4**. Avoidance of Nesting Bird Impacts **MM-BIO-5.** Avoidance of Listed Species Take **MM-BIO-6.** Avoidance of Raptor Breeding Impacts		
	<u>Tijuana River Watershed (Direct Project-Level)</u> In the Tijuana River Watershed, proposed maintenance would result in a total of 0.73 acres of newly proposed and 6.42 acres of previously permitted significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant,** absent mitigation (**BIO-1a** and **BIO-2**). One sensitive plant species, singlewhorl burrobrush, would be directly impacted by maintenance activities within Smuggler's Gulch (Segment 1) facility. Impacts to singlewhorl burrobrush would be **potentially significant**, absent habitat-based mitigation measures (**BIO-1a** and **BIO-1b**), if unavoidable. There are no other sensitive plant species that have high or moderate potential to occur within suitable habitat in the Tijuana River watershed. In the Tijuana River watershed, there are six sensitive wildlife species that were either observed during focused surveys (or during previous biological surveys) or have a high potential to occur in suitable	N/A	**MM-BIO-1a.** Compensatory Wetlands Mitigation **MM-BIO-1b.** Compensatory Upland Mitigation **MM-BIO-2.** Unintended Impact Mitigation	Less than Significant After Mitigation	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
	habitat within the limits of MWMP facility segment maintenance areas, and, therefore, would be directly impacted by maintenance activities or by removal of this habitat. Eight sensitive wildlife species have moderate potential to occur within the Tijuana River watershed study area (see Appendix E of Appendix D). Impacts would be **potentially significant,** absent mitigation (**BIO-1a, BIO-2, BIO-4, BIO-5,** and **BIO-6**).		**MM-BIO-4**. Avoidance of Nesting Bird Impacts **MM-BIO-5.** Avoidance of Listed Species Take **MM-BIO-6.** Avoidance of Raptor Breeding Impacts		
	<u>Program-Level Direct Impacts</u> Throughout the City, proposed program-level activities could result in newly proposed and/or previously permitted significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City and/or sensitive upland vegetation communities. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant,** absent mitigation (**BIO-1a**, **BIO-1b**, and **BIO-2**). Proposed program-level activities could result in impacts to sensitive plant species. Impacts to species listed in Table 5.3-4a would be **potentially significant,** absent mitigation (**BIO-1a**, **BIO-1b, BIO-3**). Proposed program-level activities could result in impacts to sensitive wildlife species. Impacts to species listed in Table 5.3-4b would be **potentially significant,** absent mitigation (**BIO-1a, BIO-1b, BIO-2, BIO-4, BIO-5,** and **BIO-6**).	**EP-BIO-1**. FMP Preparation/ Verification	**MM-BIO-1a.** Compensatory Wetlands Mitigation **MM-BIO-1b.** Compensatory Upland Mitigation **MM-BIO-2.** Unintended Impact Mitigations **MM-BIO-3**. Species Specific Sensitive Plant Mitigation **MM-BIO-4**. Avoidance of Nesting Bird Impacts	Less than Significant After Mitigation	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
			MM-BIO-5. Avoidance of Listed Species Take **MM-BIO-6.** Avoidance of Raptor Breeding Impacts		
	<u>Short-Term Indirect Impacts (Project- and Program-Level)</u> Potentially significant short-term indirect impacts include potential for additional vegetation disturbance from human activities, potential increases in the spread of invasive plant and/or pest species, and potential adverse impacts due to storm water runoff pollution. Implementation of EPs (see Section 5.3.5), including biological monitoring measures (**EP-BIO-3a, EP-BIO-3b**, and **EP-BIO-3c**), methods for successful removal of invasive species (**EP-BIO-4**), proper treatment of all woody debris removed from facilities to avoid the spread of shot-hole borer (**EP-BIO-6**), consistency with the Multiple Species Conservation Plan (MSCP)/Multi-Habitat Planning Area (MHPA) Land Use Adjacency Guidelines and Boundary Line Adjustment (BLA) requirements (**EP-LU-1** and **EP-LU-2**), and implementation of *Water Pollution Control Plan* (WPCP) measures (**EP-WQ-1**), would reduce short-term indirect impacts to sensitive vegetation communities to **less than significant**. More information regarding shot-hole borer is provided below.	**EP-BIO-3a**. Qualified Biological Monitor **EP-BIO-3b**. Pre-Construction Meeting/Education **EP-BIO-3c.** Biological Monitoring and Reporting **EP-BIO-4**. Handling of Non-Native Invasive Plant Species **EP-BIO-6**. Handling of Potential Shot Hole Borer Infestation **EP-LU-1**. MSCP/MHPA – Land Use Adjacency Guidelines **EP-LU-2**. MSCP/MHPA – Boundary Line Adjustment **EP-WQ-1**. Water Pollution Control Plan	N/A	Less than Significant with EPs	

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
	Long-Term Indirect Impacts (Project- and Program-Level) Long-term indirect impacts to sensitive vegetation communities may include adverse impacts associated with the spread of invasive plant or pest species, alteration of drainage patterns, and reduction in water quality conditions as a result of routine, repeated maintenance and removal of vegetation and sediment. Although implementation of EPs (see Section 5.3.5), including methods for successful removal of invasive species (**EP-BIO-4**), proper treatment of all woody debris removed from facilities to avoid the spread of shot-hole borer (**EP-BIO-6**), consistency with the MSCP/MHPA – Land Use Adjacency Guidelines and BLA requirements (**EP-LU-1** and **EP-LU-2**), and preparation of a Water Pollution Control Plan (**EP-WQ-1**), would reduce those potential impacts to **less than significant**, the potential for adverse impacts to sensitive vegetation communities due to alteration of drainage patterns and/or reduction in water quality conditions would be **potentially significant**, absent mitigation (**BIO-8**). Long-term indirect impacts to sensitive biological resources related to alteration of drainage patterns or reductions in water quality conditions would be reduced through implementation of **MM-BIO-1a** and **MM-WQ-1.** However, these offsetting water quality benefit features are based on the best available data, which at this time cannot precisely calculate water quality conditions prior to and after maintenance and mitigation due to an extensive set of both site-specific and independent conditions and variables that vary in space and time. Therefore, potential long-term indirect impacts related to potentially reduced water quality conditions would remain **significant and unavoidable** following implementation of **MM-BIO-1a** and **MM-WQ-1.**	**EP-BIO-2**. Lighting Restrictions **EP-BIO-4**. Handling of Non-Native Invasive Plant Species **EP-BIO-6**. Handling of Potential Shot Hole Borer Infestation **EP-LU-1**. MSCP/MHPA – Land Use Adjacency Guidelines **EP-LU-2**. MSCP/MHPA – Boundary Line Adjustment **EP-WQ-1**. Water Pollution Control Plan	**MM-BIO-1a.** Compensatory Wetlands Mitigation **MM-WQ-1.** Beneficial Water Quality Activities	**Significant and Unavoidable After Mitigation**	**Significant and Unavoidable Cumulative Impact**
	Indirect Impacts to Sensitive Plant Species (Project- and Program-Level) Most of the indirect impacts to vegetation communities cited above can also affect sensitive plants. In addition, where individual sensitive plant species occur adjacent to proposed MWMP facilities, the potential for indirect impacts to sensitive plant species is increased. Indirect impacts to sensitive plant species are detailed by watershed in the BTR. Implementation of EPs (see Section 5.3.5), including biological monitoring measures (**EP-BIO-3a, EP-BIO-3b,** and **EP-BIO-3c**), methods for successful removal of invasive species (**EP-BIO-4**), proper treatment of all woody debris removed from facilities to avoid the spread of shot-hole borer (**EP-BIO-6**), implementation sensitive plant species protection (**EP-BIO-5**), consistency with the MSCP/MHPA – Land Use Adjacency Guidelines (**EP-LU-1**), and preparation of a *Water Pollution Control Plan* (**EP-WQ-1**), would reduce indirect impacts to sensitive plant species to **less than significant.**	**EP-BIO-3a**. Qualified Biological Monitor **EP-BIO-3b**. Pre-Construction Meeting/Education **EP-BIO-3c.** Biological Monitoring and Reporting **EP-BIO-4**. Handling of Non-Native Invasive Plant Species	N/A	Less than Significant with EPs	

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
		EP-BIO-5. Sensitive Plant Species Protection **EP-BIO-6**. Handling of Potential Shot Hole Borer Infestation **EP-LU-1**. MSCP/MHPA – Land Use Adjacency Guidelines **EP-WQ-1**. Water Pollution Control Plan			
	<u>Indirect Impacts to Sensitive Wildlife Species (Project- and Program-Level)</u> Many of the indirect impacts to vegetation communities and sensitive plants previously described can also affect sensitive wildlife due to the potential significant degradation of habitat used by wildlife. Wildlife may also be affected in the short term by indirect impacts such as emergency nighttime work, increased human presence, and maintenance-related noise (which can disrupt normal activities, cause lasting stress, and subject wildlife to higher predation risks). Indirect impacts to sensitive wildlife species are detailed by watershed in the BTR. Implementation of EPs (see Section 5.3.5), including biological monitoring measures (**EP-BIO-3a, EP-BIO-3b,** and **EP-BIO-3c**), methods for successful removal of invasive species (**EP-BIO-4**), proper treatment of all woody debris removed from facilities to avoid the spread of shot-hole borer (**EP-BIO-6**), consistency with the MSCP/MHPA – Land Use Adjacency Guidelines (**EP-LU-1**), and preparation of a *Water Pollution Control Plan* (**EP-WQ-1**), would reduce indirect impacts related to habitat degradation to sensitive wildlife species to **less than significant**. If maintenance is conducted adjacent to portions of the MHPA occupied by California gnatcatcher during the breeding season, these noise impacts would be **potentially significant** (**BIO-7**), absent mitigation.	**EP-BIO-2**. Lighting Restrictions **EP-BIO-3a**. Qualified Biological Monitor **EP-BIO-3b**. Pre-Construction Meeting/Education **EP-BIO-3c.** Biological Monitoring and Reporting **EP-BIO-4**. Handling of Non-Native Invasive Plant Species **EP-BIO-6**. Handling of Potential Shot Hole Borer Infestation **EP-LU-1**. MSCP/MHPA – Land Use Adjacency Guidelines	**MM-BIO-7**. Avoidance of California Gnatcatcher Breeding Impacts in MHPA	Less than Significant with EPs and After Mitigation	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
		EP-WQ-1. Water Pollution Control Plan			
Issue 2: Would the proposal result in a substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development Manual or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?	Project- and Program-Level Lands designated as Tier IV are not considered to have significant habitat value and impacts would not be considered significant. Direct impacts to sensitive vegetation communities (i.e., Tier II, IIIA, and IIIB) in excess of allowable thresholds (see Section 5.3.5), would result in a loss of sensitive vegetation identified in local and regional plans. Impact acreages are included in totals listed above for each watershed under Issue 1. Mitigation ratios for permanent impacts to sensitive vegetation communities are determined by their location within or outside of the MHPA. Previously permitted maintenance areas are eligible to submit proof of prior mitigation allocations under **EP-BIO-1.** Any unintended temporary impact areas in sensitive habitat communities, that are not anticipated to be impacted during future maintenance, would require restoration following the completion of construction. These impacts are therefore **potentially significant,** absent mitigation (**BIO-1b** and **BIO-2**). Mitigation ratios for permanent impacts to sensitive vegetation communities are determined by the San Diego Biology Guidelines (SDBG) of the Land Development Manual and the agency approvals for maintenance under the MWMP. Any unintended temporary impacts to sensitive jurisdictional resources would require restoration following the completion of construction, in addition to further mitigation applied at the appropriate ratio for the resource unintentionally impacted.	**EP-BIO-1**. FMP Preparation/ Verification	**MM-BIO-1b.** Compensatory Uplands Mitigation **MM-BIO-2.** Unintended Impact Mitigation	Less than Significant with EPs and After Mitigation	Less than Significant Cumulative Impact
Issue 3: Would the proposal result in a substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through direct removal, filling, hydrological interruption, or other means?	Project- and Program-Level Maintenance of Concrete-Lined Channel (unvegetated) or wetland vegetation communities that are dominated by invasive species (e.g., Disturbed Wetland (Arundo-dominated)) would not result in a loss of wetland area or function, and in some cases would result in an increase of function and therefore is considered **less than significant**. All other impacts to lands mapped as wetland or non-wetland waters would be **potentially significant**, absent mitigation (**BIO-1a** and **BIO-2**). Mitigation ratios for permanent impacts to sensitive vegetation communities are determined by the SDBG and the agency approvals for maintenance under the MWMP. Any unintended temporary impacts to sensitive jurisdictional resources would require restoration following the completion of construction, in addition to further mitigation applied at the appropriate ratio for the resource unintentionally impacted.	N/A	**MM-BIO-1a.** Compensatory Wetlands Mitigation **MM-BIO-2.** Unintended Impact Mitigation	Less than Significant After Mitigation	Less than Significant Cumulative Impact
Issue 4: Interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or	Project- and Program-Level For the majority of MWMP facilities, maintenance for each segment/structure would be completed in 45 days or less (e.g., mobilization, post-construction BMPs), with more than half of those being completed in 2 weeks or less. Given the short duration of activities, regardless of the location in a larger biological core/linkage area or in a local movement area, temporary wildlife usage disruptions associated with maintenance would not be expected to interfere substantially with overall wildlife usage of the corridor or long-term suitability of habitat in that area for wildlife movement. In most	**EP-LU-1.** MSCP/MHPA – Land Use Adjacency Guidelines **EP-LU-2**. MSCP/MHPA – Boundary Line Adjustment	N/A	Less than Significant	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
impede the use of native wildlife nursery sites?	cases, increased human activities associated with storm water facility maintenance would be similar to other occasional urban disturbance, such as road and building construction. The short duration of maintenance would mean that the period of increased human activity and noise disruption would be limited. These types of facilities are relatively small, and most often maintenance would only affect a portion of the corridor. The impacts of maintenance activities would be short in duration, and wildlife usage of the corridor would be expected to recover after maintenance. Additionally, except in emergency situations where maintenance during the night is necessary to protect life and/or property, work under the MWMP would only be conducted during daylight hours, which is when wildlife movement is less likely to occur, so nocturnal wildlife movement would still be possible during maintenance. In addition implementation of **EP-LU-1** and **EP-LU-2** would ensure compliance with the MSCP/MHPA Land Use Adjacency Guidelines and Boundary Line Adjustment requirements. Therefore, impacts to wildlife corridors from activities proposed under the MWMP would be **less than significant.**				
Issue 5: A conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, either within the MSCP plan area or in the surrounding region?	<u>Project- and Program-Level</u> The City's MSCP Subarea Plan lists Essential Public Project as conditionally compatible with the biological objectives of the MSCP and allowed within the City's MHPA. Conditions of compatibility include compliance with applicable sections of the MSCP Subarea Plan, including Section 1.4.2 (General Planning Policies and Design Guidelines; in particular the Flood Control portion), Section 1.4.3 (Land Use Adjacency Guidelines; in particular the Drainage portion), and Section 1.5 (Framework Management Plan; in particular the Flood Control portion). A matrix documenting MWMP compliance with the MSCP, including the sections listed above, is provided as Table 5.8-2 in the Land Use section of this EIR. The MWMP is considered an Essential Public Project, and based on land use consistency documented in Table 5.8-2, complies with the City's MSCP Subarea Plan, Municipal Code, and SDBG (City of San Diego 2018). In addition, implementation of **EP-LU-1** and **EP-LU-2** would ensure compliance with the MSCP/MHPA Land Use Adjacency Guidelines and Boundary Line Adjustment requirements. Based on this consistency, impacts related to a conflict with MSCP or surrounding conservation plans would be **less than significant.**	**EP-LU-1**. MSCP/MHPA – Land Use Adjacency Guidelines **EP-LU-2**. MSCP/MHPA – Boundary Line Adjustment	N/A	Less than Significant	Less than Significant Cumulative Impact
Issue 6: Would the project introduce land use within an area adjacent to the MHPA that would result in adverse edge effects?	<u>Project- and Program-Level</u> Implementation of EPs (**EP-BIO-3a, EP-BIO-3b, EP-BIO-3c, EP-BIO-4, EP-BIO-6, EP-LU-1,** and **EP-WQ-1**) would avoid the potential for significant impacts through incorporation of biological monitoring measures, methods for successful removal of invasive species, proper treatment of all woody debris removed from facilities to avoid the spread of shot-hole borer, and implementation of *Water Pollution Control Plan* (WPCP) measures. However, the potential for adverse edge effects related to alteration of drainage patterns and/or reduction in water quality conditions would be **potentially significant**, absent mitigation (**BIO-8**). Long-term indirect impacts to sensitive biological resources related to alteration of drainage patterns or reductions in water quality conditions would be reduced through implementation of **MM-BIO-1a** and **MM-WQ-1.** However, these offsetting water quality benefit features are based on the best	**EP-BIO-3a**. Qualified Biological Monitor **EP-BIO-3b**. Pre-Construction Meeting/Education **EP-BIO-3c.** Biological Monitoring and Reporting	**MM-BIO-1a**. Compensatory Wetlands Mitigation **MM-WQ-1.** Beneficial Water Quality Activities	**Significant and Unavoidable After Mitigation**	**Significant and Unavoidable Cumulative Impact**

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
	available data, which at this time cannot precisely calculate water quality conditions prior to and after maintenance and mitigation due to an extensive set of both site-specific and independent conditions and variables that vary in space and time. Therefore, potential long-term indirect impacts related to potentially reduced water quality conditions would remain **significant and unavoidable** following implementation of **MM-BIO-1a** and **MM-WQ-1.**	**EP-BIO-4**. Handling of Non-Native Invasive Plant Species **EP-BIO-6**. Handling of Potential Shot Hole Borer Infestation **EP-LU-1**. MSCP/MHPA – Land Use Adjacency Guidelines **EP-WQ-1**. Water Pollution Control Plan			
Issue 7: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<u>Project- and Program-Level</u> As an Essential Public Project, applicable findings would be required for any deviations that would conflict with any local policies or ordinances, such as Environmentally Sensitive Lands (ESL), and would need to be approved by the decision-making body. The Public Tree Protection Policy does not apply to trees within storm water facilities because such trees are not part of a landscaped right-of-way or other public setting and not covered under the policy. Impacts would be **less than significant**.	N/A	N/A	Less than Significant	Less than Significant Cumulative Impact
	Geologic Conditions				
Issue 3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<u>Project- and Program-Level</u> Grading for temporary access roads, stockpiling, or required earthwork for bank reconstruction could potentially cause or contribute to geologic hazards, such as slope instability or adverse settlement. These impacts would be avoided if activities are designed and constructed in accordance with standard geologic and geotechnical practices. The proposed MWMP would follow all applicable seismic standards and geotechnical engineering practices when bypass structures, access roads, or stockpiling of materials is necessary. As further detailed in Chapter 4, Project Description, when needed, an evaluation would be conducted to determine bank stability, and necessary stabilization would be implemented in locations where bank or channel erosion was documented during the site assessments and the engineering team deemed the condition to need additional evaluations. Thus, the following **EP-GEO-1** would be implemented when earthen bank repair is contemplated.	**EP-GEO-1**. Preparation of Geotechnical Report	N/A	Less than Significant	Less than Significant Cumulative Impact
	Greenhouse Gas Emissions				
Issue 1: Would the proposal generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	<u>Project-Level</u> As shown in Table 5.4-5, the estimated total greenhouse gas (GHG) emissions during maintenance would be approximately 5,164 metric tons (MT) carbon dioxide equivalent (CO_2e). Because there is no quantitative GHG threshold, the MWMP's consistency with the City's Climate Action Plan (CAP) is assessed below, and impacts have been determined to be **less than significant**.	**EP-SW-1.** Waste Management Plan **EP-SW-2.** Reusable Materials	N/A	Less than Significant with EPs	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
Issue 2: Would the project conflict with the City's Climate Action Plan or another applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	The MWMP is consistent with each of the CAP strategies. With implementation of **EP-SW-1** through **EP-SW-8**, the MWMP would have a **less than significant** impact. <u>Program-Level</u> Program-level activities could generate additional emissions, but none of the program-level activities would result in a land use change that would generate emissions greater than those assumed in the CAP. The CAP provides for flexibility in achieving Citywide GHG emissions reductions and includes a monitoring program that ensures that the City will achieve the GHG reductions identified in the CAP. Therefore, program-level MWMP activities would result in **less than significant** impacts. As discussed for Issue 2, MWMP activities would be consistent with each of the CAP strategies as explained under Section 5.4.6. Similar to project-level activities, with implementation of EP-SW-1 through EP-SW-8, program-level activities under the MWMP would have a **less than significant impact**.	**EP-SW-3.** Suitable Reuse **EP-SW-4.** Green Waste **EP-SW-5.** Tire Disposal **EP-SW-6.** Material Diversion **EP-SW-7.** Landfill Notification **EP-SW-8.** Composting			
Health and Safety/Hazards					
Issue 1a: Would the project expose people or structures eitherdirectly or indirectly, to a significant risk of loss, injury, or death involving wildland fires? **Issue 1b:** Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? **Issue 1c:** Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<u>Project- and Program-Level</u> The City provides maintenance crews with fire safety measures in compliance with Chapter 14 of the California Fire Code, and gasoline-powered or diesel-powered machinery used during maintenance and repair activities would be equipped with standard exhaust controls and muffling devices that would also act as spark arrestors. Fire containment and extinguishing equipment would be located on site and would be accessible during maintenance and repair activities. Maintenance crews are trained to use fire suppression equipment and would not be permitted to idle vehicles at maintenance sites when not in use. The proposed MWMP would also not exacerbate fire risks due to slope, prevailing winds, or other factors, and no occupants are proposed as part of this project. Compliance with safety precautions already in place would ensure no temporary or ongoing impacts would occur. Therefore, potential impacts due to exposure of people or structures to wildfires as a result of project--level or program-level maintenance under the MWMP would be **less than significant**.	N/A	N/A	Less than Significant	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
Issue 1d: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?					
Issue 2: Would any component of the project be located on a site that is included on a hazardous material sites list compiled pursuant to Government Code Section 6596.25 and, as a result, pose a significant hazard to the public or environment?	Project- and Program-Level Due to the severity of potential contamination, proximity to MWMP facilities, and up-gradient locations of the sites in relation to MWMP facilities, it is recommended that monitoring be conducted for activities (**EP-HAZ-1**) located within 200 feet of open/active sites or 100 feet of closed/inactive sites with known soil contamination, as identified in Table 5.5-1. In the event that hazardous materials or soils are identified, crews would stop work in the area and follow the Hazardous Materials Contingency Plan (HMCP) (**EP-HAZ-2**). The HMCP would give guidance on maintaining worker safety, the proper identification and storage of impacted materials, and appropriate treatment of impacted media. Therefore, impacts would be **less than significant**, and no mitigation is required. If unexpected hazardous materials are encountered, **EP-HAZ-3** would be implemented, and impacts would be **less than significant**.	**EP-HAZ-1.** Hazardous Materials Monitoring (Known Hazards) **EP-HAZ-2.** Hazardous Materials Contingency Plan **EP-HAZ-3.** Facilities with Previously Unknown Hazards	N/A	Less than Significant with EPs	Less than Significant Cumulative Impact
Issue 3: Would the project result in hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within a quarter-mile of an existing or proposed school?	Project- and Program-Level Maintenance activities have the potential to encounter known or unknown hazardous materials or contaminated soils that would need to be removed from the facility and transported to an acceptable facility; thus, proposed MWMP activities could result in the handling of acutely hazardous material or a mixture containing acutely hazardous materials in a quantity equal to or greater than the state threshold within one-quarter mile of a school. However, implementation of **EP-HAZ-2** would prevent potential impacts within one-quarter mile of a school, and impacts would be **less than significant**.	**EP-HAZ-2.** Hazardous Materials Contingency Plan	N/A	Less than Significant with EP	Less than Significant Cumulative Impact
Issue 4: Would the project expose people to toxic substances through reasonably foreseeable conditions, such as pesticides and herbicides, some of which have long-lasting ability, applied to the soil during previous agricultural uses?	Project- and Program-Level MWMP maintenance activities have the potential to encounter soils that have been contaminated by previous agricultural use, or could expose people or the environment to hazardous conditions. However, an HMCP has been prepared that identifies areas of known hazardous materials concerns; prescribes sampling, if necessary; includes procedures for managing hazardous materials; and discusses health and safety measures (e.g., air monitoring) that should be implemented during MWMP maintenance activities in potentially impacted areas. Thus, with implementation of **EP-HAZ-1** through **EP-HAZ-3**, impacts would be **less than significant**.	**EP-HAZ-1.** Hazardous Materials Monitoring (Known Hazards) **EP-HAZ-2.** Hazardous Materials Contingency Plan **EP-HAZ-3.** Facilities with Previously Unknown Hazards	N/A	Less than Significant with EPs	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
Historic, Archaeological, and Tribal Cultural Resources					
Issue 1: Would the project result in an alteration, including the adverse physical or aesthetic effects and/or the destruction of a prehistoric or historic building (including an architecturally significant building), structure, object, or site, or existing religious or sacred use?	Project- and Program-Level *Prehistoric and Historic Archaeological Resources* Regarding unknown cultural resources, MWMP maintenance activities have potential to impact previously undiscovered cultural resources, including tribal cultural resources and/or grave sites. MWMP facilities and maintenance activities would occur in highly sensitive areas with many past instances of human remain discoveries. In addition, MWMP maintenance activities are located in creek and canyon landscapes that are considered highly sensitive by local Native American tribal groups. Lastly, no known religious or sacred uses have been identified within the MWMP Area of Potential Effect (APE), but for the same reasons as described above, there is potential for these to be encountered during future maintenance activities. Regarding known cultural resources, project-level maintenance activities may result in impacts to unevaluated or recommended eligible resources if not properly designed (i.e., project design does not avoid the known resource). Therefore, impacts to known and previously undiscovered cultural resources due to MWMP activities would be **potentially significant** (**CR-1**), absent mitigation. *Historical Resources* No significant impacts to historical resources that are listed in or eligible for listing in the California Register of Historical Resources or National Register of Historic Places have been identified, including those historical resources that have not been formally evaluated. However, should activities change or be augmented, MWMP maintenance activities have potential to impact historic resources, and such impacts would be **potentially significant** (**HR-1**), absent mitigation.	N/A	**MM-CR-1.** Cultural Resources Monitoring and Treatment Plan (CRMTP) **MM-CR-2.** Avoidance of Cultural Resources **MM-CR-3.** Construction Monitoring **MM-CR-4.** Evaluation of Program-Level Activities **MM-HR-1.** Avoidance of Historical Resources **MM-HR-2.** Recording and Evaluation of Historic Properties	Less than Significant After Mitigation	Less than Significant Cumulative Impact
Issue 2: Would the project result in the disturbance of any human remains, including those interred outside of formal cemeteries?	Project- and Program-Level Despite previous disturbance of creeks, channels and basins, MWMP maintenance activities that would include ground disturbance have potential to impact human remains and as such would be **potentially significant** (**CR-2**), absent mitigation.	N/A	**MM-CR-1.** Cultural Resources Monitoring and Treatment Plan (CRMTP)	Less than Significant After Mitigation	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
			MM-CR-2. Avoidance of Cultural Resources		
Issue 3: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe?*	Project- and Program-Level Tribal consultation was initiated by the City Planning Department and conducted in August 2017, concurrent with distribution of the City's Notice of Preparation for an EIR for the MWMP. In February 2019, additional information was provided to the tribal representatives, and a subsequent consultation meeting was held to discuss archaeological and tribal cultural resources, and the City's impact analysis methodology. A final consultation meeting was conducted in October 2019 to discuss edits resulting from prior tribal input, impact analysis methodology, and the project-level and programmatic mitigation approach. All comments have been incorporated into the *Cultural Resources Inventory/Evaluation Report* and this EIR section; agreement was reached and consultation was concluded.	**N/A**	**MM-CR-1.** Cultural Resources Monitoring and Treatment Plan (CRMTP) **MM-CR-2.** Avoidance of Cultural Resources **MM-CR-3.** Construction Monitoring **MM-CR-4.** Evaluation of Program-Level Activities	Less than Significant After Mitigation	Less than Significant Cumulative Impact
Hydrology					
Issue 1: Would the project result in a substantial increase in impervious surfaces and associated increased runoff?	Project-Level and Program-Level Project- and program-level MWMP maintenance activities that result in the installation of impervious materials would be limited to the repair or replacement of existing concrete-lined facilities and riprap areas. As a result, MWMP maintenance activities would not change the flow rate or amount of surface runoff in the facility, since maintenance would not affect the contributing watershed area or the amount of impervious area within the watershed. Impacts as a result of project-level maintenance would be **less than significant**, and no mitigation is required.	N/A	N/A	Less than Significant	Less than Significant Cumulative Impacts
Issue 2: Would the project result in substantial alteration to on- and off-site drainage patterns due to changes in runoff flow rates or volumes?	Project-Level *Potential Flooding* For evaluated MWMP facilities, the hydrology and hydraulic analysis indicates that maintenance would either reduce the potential for flooding or flood potential would remain the same within the channels and within upstream and downstream reaches within the domain of analysis, and, therefore, no significant impacts related to increased flooding potential are anticipated as a result of proposed MWMP activities. Regarding program-level maintenance activities, potential flooding impacts are	**EP-HYD-1.** Post-Maintenance Erosion Control	N/A	Less than Significant with EP	Less than Significant Cumulative Impacts

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
	anticipated to be similar to those for project-level maintenance activities. Impacts associated with alteration of drainage patterns on upstream and downstream properties as a result of project- or program-level maintenance-induced changes in runoff flow rates or volumes with respect to flooding would be **less than significant**. *Erosion* There would be no impact to concrete-lined facilities (Category 1 segments) as a result of changes in flow velocities and drainage patterns in a manner that would result in substantial increased erosion. However, alteration of existing drainage patterns within concrete-lined facilities may result in increased erosion if upstream or downstream facilities are earthen-bottom. In addition, increased flow velocities in earthen-bottom facilities (Category 2 and 3 segments) could result in erosion on site or within the domain of analysis prior to implementation of **EP-HYD-1**. With implementation of **EP-HYD-1**, potential impacts associated with project-level maintenance activities would be **less than significant**. <u>Program-Level</u> *Flooding* Regarding Issue 2 (flooding), potential flooding impacts from program-level maintenance activities are anticipated to be similar to those for project-level maintenance activities. Programmatic maintenance activities would be evaluated to determine if maintenance is within the limitations of minor maintenance activities, and if maintenance is expected to increase risk of flooding beyond what has already been analyzed in this EIR. If flooding risks are more substantial, a Facility Management Plan (FMP) would be prepared and an analysis conducted to determine the potential need for flood control measures to be required as part of the Substantial Conformance Review process. New or amended FMPs can be added to the MWMP pending completion of adequate environmental review and regulatory approval. New or amended FMPs would be required to demonstrate substantial conformance with the MWMP and this Environmental Impact Report to ensure implementation of mitigation measures and consistency with regulatory requirements. Therefore, impacts associated with alteration of drainage patterns on upstream and downstream domain of analysis as a result of program-level maintenance-induced changes in runoff flow rates or volumes with respect to flooding would be **less than significant**. *Erosion* The same process described in the paragraph above regarding evaluation of programmatic activities to determine flooding risks would also occur to determine erosion-related risks. However, because programmatic activities have the potential to alter existing drainage patterns within concrete-lined facilities where upstream and/or downstream facilities are earthen-bottom, increased erosion could occur. However, if proposed FMPs could not be revised to bring flow velocities into an acceptable range, implementation of **EP-HYD-1** would ensure impacts would be **less than significant**.				

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
Land Use					
Issue 1: Would the project result in a conflict with goals, objectives, and recommendations of the community plan in which it is located?	Project-Level and Program-Level As detailed in Table 5.8-1, the proposed MWMP is largely consistent with the goals and policies of the General Plan, community plans, and park plans, and it would not preclude their attainment; impacts would be **less than significant**.	Mitigation measures and EP's have been identified in Section 5.1, Aesthetics; Section 5.2, Air Quality and Odor; Section 5.3, Biological Resources; Section 5.5, Health and Safety/Hazards; Section 5.6, Historical, Archeological, and Tribal Cultural Resources; Section 5.7, Hydrology; Section 5.9, Noise; Section 5.10, Paleontological Resources; Section 5.11, Solid Waste; and Section 5.12, Water Quality, to help reduce potential physical impacts on the environment as a result of implementation of the MWMP.	Mitigation measures and EP's have been identified in Section 5.1, Aesthetics; Section 5.2, Air Quality and Odor; Section 5.3, Biological Resources; Section 5.5, Health and Safety/Hazards; Section 5.6, Historical, Archeological, and Tribal Cultural Resources; Section 5.7, Hydrology; Section 5.9, Noise; Section 5.10, Paleontological Resources; Section 5.11, Solid Waste; and Section 5.12, Water Quality, to help reduce potential physical impacts on the environment as a result of implementation of the MWMP.	Less than Significant	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
Issue 2: Would the project require a deviation or variance, and the deviation or variance would in turn result in a physical impact on the environment?	Project-Level and Program-Level Project level MWMP activities would generally comply with the ESL Regulations; however, since impacts to wetlands or grading during a sensitive bird breeding season is unavoidable, a deviation is required. Since the deviation would result in a secondary physical impact on the environment, these activities could have a **potentially significant** land use impact (**LU-1**)**,** absent mitigation. However, implementation of mitigation for wetland impacts (**MM-BIO-1a**) and restriction on grading and indirect noise impacts during bird breeding seasons (**MM-BIO-4** through **MM-BIO-7**) would reduce potential land use impacts to **less than significant**.	N/A	**MM-BIO-1a**. Compensatory Wetlands Mitigation **MM-BIO-4**. Avoidance of Nesting Bird Impacts **MM-BIO-5**. Avoidance of Listed Species Take **MM-BIO-6**. Avoidance of Raptor Breeding Impacts **MM-BIO-7**. Avoidance of California Gnatcatcher Breeding Impacts in MHPA	Less than Significant After Mitigation	Less than Significant Cumulative Impact
Issue 3: Would the project result in a conflict with the provisions of the City's Multiple Species Conservation Program Subarea Plan or other approved local, regional, or state habitat conservation plan?	Project-Level Although encroachment into the MHPA is proposed as part of the MWMP, the proposed maintenance activities are considered essential public facilities. Essential public facilities are conditionally compatible with the biological objectives of the MSCP (City of San Diego 1997). Project-level MWMP activities would therefore not require MHPA boundary adjustments. The environmental protocols described above address additional conditions for location within the MHPA. Therefore, the MWMP would not conflict with the land use consideration of the MSCP Subarea Plan. Therefore, impacts would be **less than significant** with implementation of **EP-LU-1**. Program-Level Implementation of compensatory mitigation sites may require boundary adjustments to the MHPA to add mitigation areas that are not currently within the MHPA to the MHPA. Proposed future MHPA	**EP-LU-1**. MSCP/MHPA – Land Use Adjacency Guidelines **EP-LU-2**. MSCP/MHPA – Boundary Line Adjustment	N/A	Less than Significant with EP	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
	boundary line adjustments would not conflict with the MSCP Subarea Plan; therefore, impacts would be **less than significant** with implementation of **EP-LU-2**.				
	Noise				
Issue 1: Would the project result or create a significant increase in the existing ambient noise levels?	Project- and Program-Level For instances in which noise-sensitive receives are located less than 100 feet from maintenance activities, temporary significant noise increases could result. Therefore, noise impacts resulting from project- and program-level maintenance activities conducted under the MWMP would be **potentially significant** (**NOI-1**), absent mitigation.	N/A	**MM-NOI-1.** Noise Reduction Techniques	Less than Significant After Mitigation	Less than Significant Cumulative Impact
Issue 2: Would the project result in the exposure of people to noise levels which exceed the City's adopted noise ordinance or are incompatible with Table K-4?	Project- and Program-Level Activities with noise levels less than 75 dBA L_{eq} (12-hour) at a distance of 100 feet could exceed the City's 75 dBA L_{eq} (12-hour) noise standard if residences are located less than 100 feet away. Therefore, impacts are considered **potentially significant** (**NOI-2**), absent mitigation.	N/A	**MM-NOI-1.** Noise Reduction Techniques	Less than Significant After Mitigation	Less than Significant Cumulative Impact
Issue 3: Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Project- and Program-Level At a distance of approximately 50 feet, the typical closest distance to the nearest residences, the vibration levels from heavy construction machinery (such as a large bulldozer that could be used) would be 0.031 inches per second, or 0.074 inches per second from a vibratory roller. Vibration levels of this magnitude would be below the threshold of perception (0.10 inches per second) or the damage threshold for fragile structures (0.20 inches per second). Therefore, vibration levels resulting from heavy construction equipment would not result in excessive groundborne vibration levels, and impacts would be **less than significant.**	N/A	N/A	Less than Significant	Less than Significant Cumulative Impact
	Paleontological Resources				
Issue 1: Would the project require over 1,000 cubic yards of excavation in a high resource potential geologic deposit/formation/rock unit, or over 2,000 cubic yards of excavation in a moderate resource potential geologic deposit/formation/rock unit?	Project- and Program-Level Table 5.10-3 identifies all earthen-bottom potential MWMP project facilities and their respective low to high paleontological sensitivity rating. Prior to the start of an MWMP activity in an earthen-bottom facility, activities would be reviewed along with Table 5.10-3 to determine if additional avoidance or minimization measures should be implemented. Project facilities shaded yellow have little to no sensitivity for paleontological resources and no further action would be required. Project facilities shaded green have a heightened sensitivity for paleontological resources, and in the event that excavation quantities exceed the City's established thresholds in these sensitive locations, implementation of **EP-PAL-1**, pursuant to Land Development Code Section 142.0151 and Land Development Manual Appendix P, would ensure impacts to be **less than significant** and no mitigation would be required.	**EP-PAL-1.** Paleontological Resource Compliance	N/A	Less than Significant with EP	Less than Significant Cumulative Impact
	Solid Waste				
Issue 1: Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or	Project- and Program-Level Activities under the MWMP would comply with the City's most current *Whitebook* regarding waste management and waste reduction. Further, specific EPs have been identified in the *Waste Management Plan* and in Section 5.11.5, Approach and Methodology, to reduce the amount of solid waste sent to the landfill by 50%. Although it cannot be ensured that the targeted 50% diversion of materials from	N/A	N/A	Less than Significant	Less than Significant Cumulative Impact

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
otherwise impair the attainment of solid waste reduction goals?	disposal will be attained, measures specified for the MWMP are provided above and beyond the baseline condition. These waste diversion measures would contribute to an increased waste diversion rate. Thus, although it is unknown how much solid waste could be diverted, the potential contribution of solid waste from MWMP activities would be **less than significant** and would not require the need for new or expanded solid waste disposal facilities.				
Issue 2: Would the project comply with federal, state, and local statutes and regulations related to solid waste?	Project- and Program-Level Accumulated trash, debris, and sediment must be removed periodically to keep storm water facilities functioning as designed to carry storm water downstream and to manage flood risk. When implemented, the EPs, and in particular the *Waste Management Plan* (**EP-SW-1**) would help divert a portion of solid waste from being transferred to the landfill. Due to the nature of the solid waste handled under the MWMP for project and programmatic activities, recycling and reusing the materials is not always appropriate or feasible, and the amount that would be diverted from disposal is unknown. Given that the proposed MWMP may not substantially change the amount of solid waste currently handled and transferred to the Miramar Landfill, and that TSW has a current diversion rate far below the required amount of 50%, it is anticipated that project and programmatic activities would also not comply with the 50% waste diversion goal set by the TSW *Waste Diversion Plan*. Therefore, even with implementation of **EP-SW-1** through **EP-SW-8**, impacts would be **significant and unavoidable** (**SW-1**).	**EP-SW-1.** Waste Management Plan **EP-SW-2.** Reusable Materials **EP-SW-3.** Suitable Reuse **EP-SW-4.** Green Waste **EP-SW-5.** Tire Disposal **EP-SW-6.** Material Diversion **EP-SW-7.** Landfill Notification **EP-SW-8.** Composting	N/A	**Significant and Unavoidable with EPs**	**Significant and Unavoidable Cumulative Impact**
Water Quality					
Issue 1: Would the project adhere to the City's Storm Water Standards Manual (City of San Diego 2018)?	Project- and Program-Level *Short-Term Impacts* The MWMP Water Pollution Control Plan (WPCP) Guidance Document will allow facility-specific WPCPs to be designed so that maintenance practices are properly implemented to maintain compliance with Storm Water Standards Manual and related Regional MS4 Permit provisions, avoid violations of water quality standards (i.e., beneficial uses, water quality criteria or objectives to protect the beneficial uses, and state and federal anti-degradation policies) or waste discharge requirements, and protect receiving waters from adverse impacts to beneficial uses. For facilities where best management practices (BMPs) are proposed, short-term water quality impacts would be **less than significant** with implementation of **EP-WQ-1**, and no mitigation is required.	**EP-WQ-1**. Water Pollution Control Plan	N/A	Less than Significant With EP	Less than Significant Cumulative Impact
Issue 2: Would the project otherwise substantially degrade water quality?	Project- and Program-Level *Long-Term Impacts*	N/A	**MM-BIO-1a**. Compensatory	**Significant and Unavoidable After Mitigation**	**Significant and Unavoidable**

Table ES-1
Impacts and Proposed Environmental Protocols and Mitigation

Impact Threshold	Impact	Environmental Protocols*	Mitigation Measures	Significance Determination	Cumulatively Considerable
	For maintenance activities that would result in jurisdictional, vegetated wetlands loss, and compensatory mitigation has yet to be constructed at the time of maintenance, water quality benefit features listed in Section 5.12.9 would be implemented (**MM-WQ-1**). Items 1 or 2 would be implemented each fiscal year that maintenance occurs and Item 3 would be implemented once. No additional water quality benefit features would be required. Implementation of Items 1, 2, or 3 is independent of required compensatory habitat mitigation to be performed as part of **MM-BIO-1a**. Prior to implementation of **MM-WQ-1** and **MM-BIO-1a**, impacts would be **potentially significant** (**WQ-1**). Wetlands avoidance and implementation of **MM-BIO-1a** would reduce the potential for long-term water quality impacts; for MWMP activities where implementation of **MM-BIO-1a** is delayed, implementation of **MM-WQ-1** would further reduce the potential for long-term water quality impacts. However, these offsetting water quality benefit features are based on the best available data, which at this time cannot precisely calculate water quality conditions prior to and after maintenance and mitigation due to an extensive set of both site-specific and independent conditions and variables that vary in space and time. Therefore, potential long-term water quality impacts would remain **significant and unavoidable** following implementation of **MM-BIO-1a** and **MM-WQ-1.**		Wetlands Mitigation **MM-WQ-1.** Beneficial Water Quality Activities		**Cumulative Impact**

* Full text of EPs and MMs are provided in Sections 5.1 through 5.12 of this EIR.

Substantial Conformance Review Process

The Site Development Permit (SDP) and Coastal Development Permit (CDP) would allow for implementation of the MWMP using the subsequent review process outlined in Chapter 2, Introduction, Table 2-2, Development Services Department Subsequent MWMP Process Flow Chart. Subsequent activities outside the coastal overlay zone that are analyzed at the project level in this EIR would be authorized through Substantial Conformance Review (SCR) Process One. Subsequent review of MWMP activities located inside the coastal overlay zone that are analyzed at the project level in this EIR would be authorized through a SCR Process Two to provide an opportunity for public appeal of the decision to City Council and California Coastal Commission.

For programmatic activities (e.g., MWMP amendments to add/substantially amend FMPs, compensatory mitigation sites, or emergency maintenance) where the environmental impacts of those activities are sufficiently addressed and mitigated for in the MWMP EIR, a SCR Process Two will be required. For activities not addressed in the MWMP EIR, a separate review, likely under a separate or amended SDP/CDP will be required. Minor maintenance is described in Chapter 4, Project Description, as being limited to activities that do not require discretionary approval or environmental review, and, therefore, would continue as is current practice. Minor maintenance activities are included in Chapter 4, Project Description, and in the MWMP to comprehensively address storm water infrastructure maintenance and repair activities. Emergency activities may be initially authorized through established emergency procedures but would require after-the-fact approvals in accordance with the appropriate process for that activity/facility.

Mitigation Framework

The MWMP Mitigation Framework included below, which would be certified as part of the MWMP, would be implemented on an activity-by-activity basis for covered maintenance activities, as well as future activities that are consistent with the provisions if the MWMP.

Environmental Protocols and Mitigation Measures	Mitigation Framework
Aesthetics/Visual Effects and Neighborhood Character	
MM-AES-1	**Visual Analysis for Program Activities.** Where program activities, including construction of compensatory mitigation sites, would entail the introduction of new vegetation and (potential) substantial view blockage or interruption of a community plan identified vista, scenic view, or public vantage point, additional analysis shall be

Environmental Protocols and Mitigation Measures	Mitigation Framework
	conducted. The analysis shall consider the nature of program-level activities; proximity to community plan identified vista, scenic view, or public vantage point; and potential for program-level activities to result in substantial, long-term view obstruction. If the analysis determines that substantial view obstruction may occur, then additional mitigation, including the selection of plants and trees with a shorter form, shall be considered in planting palettes to maintain existing view corridors at community plan identified views, scenic vistas, or public vantage points.
Historical, Archeological, and Tribal Cultural Resources	
MM-CR-4	**Evaluation of Program-Level Activities.** Prior to the initiation of non-exempt program-level activities in new locations that have not been previously identified in Table 5.6-4, Archaeological Review Matrix; Table 5.6-5, Non-Exempt Activities; and Table 5.6-6, Historical Resources Review Matrix, the activity and specific location shall be evaluated by a qualified PI. The evaluation shall determine (a) the presence (or lack thereof) of archaeological and/or historical resources located within the APE; (b) whether identified resources have been previously evaluated and (c) whether a site visit is necessary to determine the cultural sensitivity and the extent of previous ground disturbance. If determined to be necessary, site visits and related documentation shall be conducted in a manner consistent with the methods employed in the Historical Resources and Cultural Resources Inventory/Evaluation Reports prepared for the MWMP EIR. Based on the results of future archaeological evaluations, the PI (in consultation with the City) shall determine whether

Environmental Protocols and Mitigation Measures	Mitigation Framework
	additional avoidance and minimization measures, MM-CR-1 through MM-CR-3, and/or MM-HR-1 through MM-HR-2 would be required for the non-exempt program-level activity.
Air Quality and Odor; Biological Resources; Geologic Conditions; Greenhouse Gas Emissions; Health and Safety Hazards; Historical, Archeological, and Tribal Cultural Resources; Hydrology; Land Use; Noise; Paleontological Resources; Solid Waste; and Water Quality	
Air Quality and Odor **MM-AQ-1** Biological Resources **EP-BIO-1** through **EP-BIO-6; EP-LU-1; EP-LU-2; EP-WQ-1;** and **MM-BIO-1a** through **MM-BIO-7** Geologic Conditions **EP-GEO-1** Greenhouse Gas Emissions **EP-SW-1** through **EP-SW-8** Health and Safety Hazards **EP-HAZ-1** through **EP-HAZ-3** Historical, Archaeological, and Tribal Cultural Resources **MM-CR-1** through **MM-CR-3; MM-HR-1** and **MM-HR-2** Hydrology **EP-HYD-1** Land Use **EP-LU-1** and **EP-LU-2; MM-AES-1; MM-AQ-1; EP-BIO-1** through **EP-BIO-6** and **MM-BIO-**	Prior to subsequent Substantial Conformance Review (SCR) approval for program activities, the Mayor-Appointed Environmental Designee (ED) shall verify that a project-level analysis has been completed that provides evidence of the applicability and effectiveness of the identified EPs and MMs, including that no new or substantial increase in the severity of previously-identified significant effects shall occur.

Environmental Protocols and Mitigation Measures	Mitigation Framework
1a through **MM-BIO-7; EP-HAZ-1** through **EP-HAZ-3; MM-CR-1** through **MM-CR-3; MM-HR-1** and **MM-HR-2; EP-HYD-1; MM-NOI-1; EP-PAL-1; EP-SW-1** through **EP-SW-8; EP-WQ-1 and MM-WQ-1** <u>Noise</u> **MM-NOI-1** <u>Paleontological Resources</u> **EP-PAL-1** <u>Solid Waste</u> **EP-SW-1** through **EP-SW-8** <u>Water Quality</u> **EP-WQ-1; MM-BIO-1a;** and **MM-WQ-1**	

CHAPTER 2 INTRODUCTION

The City of San Diego (City) has prepared this Environmental Impact Report (EIR) to inform the general public, the local community, responsible agencies, trustee agencies, and other interested public agencies and the City's decision-making bodies (Planning Commission and City Council) regarding the potential significant environmental effects resulting from implementation of the proposed *City of San Diego Municipal Waterways Maintenance Plan* (MWMP), as well as possible measures to mitigate those significant effects and alternatives to the proposed MWMP. This EIR was prepared in compliance with the California Environmental Quality Act (CEQA) (California Public Resources Code, Section 21000 et seq.), the CEQA Guidelines (14 CCR 15000 et seq.), and the City's procedures for implementing CEQA.

As described in CEQA Guidelines Section 15121(a), an EIR is an informational document that assesses potential environmental impacts of a proposed project, as well as identifies mitigation measures and alternatives to a proposed project that could reduce or avoid adverse environmental impacts. As the CEQA lead agency for this MWMP, the City is required to consider the information in this EIR, along with any other available information, in deciding whether to approve the proposed MWMP. The basic requirements for an EIR include providing information that establishes the environmental setting (or baseline), and identifying environmental impacts, mitigation measures, alternatives, growth-inducing impacts, and cumulative impacts. In a practical sense, an EIR functions as a method of fact finding, allowing an applicant, the public, other public agencies, and agency staff an opportunity to collectively review and evaluate baseline conditions and project impacts through a process of full disclosure. Additionally, EIRs provide the primary source of environmental information for the lead agency and other responsible and trustee agencies to consider when exercising any permitting authority or approval power directly related to implementation of a project. It is not the intent of an EIR to recommend either approval or denial of a project.

2.1 CEQA PROJECT OBJECTIVES

The following are the primary objectives of the MWMP:

1. Public safety and flood risk reduction
    - Protect life and property adjacent to, downstream, and upstream of affected channels from flooding and environmental degradation.
2. Responsiveness to reduce flood risk
    - Provide for timely and consistent routine operations and maintenance in the affected channels and associated storm water conveyance infrastructure.

3. Avoid, minimize, and/or mitigate potential effects to environmental resources
    - Avoid, minimize, and/or mitigate significant adverse environmental effects resulting from routine maintenance of storm water facilities.
    - Incorporate and adapt to water quality management strategies intended to protect water quality and address flooding impacts.
4. Proactive and timely approval process
    - Provide project-level analysis upfront to expedite subsequent authorizations for routine and preventive maintenance activities within storm water facilities.
    - Identify a review-and-approval process to include additional storm water facilities and maintenance activities that follow the protocols and requirements of the MWMP.
    - Reduce the need to conduct emergency maintenance during significant storm events by implementing preventive maintenance activities.

2.2 CEQA REQUIREMENTS

2.2.1 NOTICE OF PREPARATION

In accordance with CEQA Guidelines, Section 15082, a Notice of Preparation (NOP) was circulated for public and agency review from July 12, 2017, through August 11, 2017. The purpose of the NOP was to provide notification that an EIR for the proposed MWMP was being prepared and to solicit comments on the scope and content of the document.

Pursuant to CEQA Guidelines, Section 15082, the lead agency held public scoping meetings on July 25, 2017, and August 1, 2017. Responsible and trustee agencies and members of the public were invited to attend and provide input on the scope of the EIR. Comments from agencies and the public in response to the NOP are provided in Appendix B.

2.2.2 EIR ADEQUACY

The level of detail contained throughout this EIR is consistent with Section 15151 of the CEQA Guidelines, which states the following:

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information that enables them to make a decision which intelligently takes account of the environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement

among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

2.2.3 DRAFT EIR AND PUBLIC REVIEW

The EIR process occurs in two basic stages. The first stage is the Draft EIR, which offers the public the opportunity to comment on the document, while the second stage is the Final EIR, which provides the basis for approving the proposed MWMP.

This Draft EIR is being circulated for public review and comment for a period of 45 days. Public Review began on November 26, 2019, and ended on January 10, 2020. Written comments may be addressed to Myra Herrmann, Environmental Planner, City of San Diego Planning Department, 9485 Aero Drive, MS 413, San Diego, CA 92123-1801, and emailed comments can be sent to PlanningCEQA@sandiego.gov.

One or more public hearings will be held as part of the City Council's consideration of the adequacy of the EIR. The public can review the Draft EIR and supporting documents at the following address, 9485 Aero Drive, M.S. 413, San Diego, CA 92123, during normal business hours (Monday through Friday, 8:00 a.m. to 4:00 p.m.) or on the City's website at http://www.sandiego.gov/planning/programs/ceqa/index.shtml.

2.2.4 FINAL EIR AND EIR CERTIFICATION

Upon completion of the Draft EIR public review period, a Final EIR will be prepared that will include written comments on the Draft EIR received during the public review period and the City's responses to those comments. The Final EIR will also include the Mitigation, Monitoring, and Reporting Program prepared in accordance with Section 21081.6 of the California Public Resources Code. The Final EIR will address any revisions to the Draft EIR made in response to agency or public comments. The Draft EIR and Final EIR together will compose the EIR for the proposed MWMP. Before the City can approve the MWMP, it must first certify that the EIR has been completed in compliance with CEQA, that the City Council has reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the City. The City Council would also be required to adopt findings of fact and a statement of overriding considerations (for any significant and unavoidable impacts) explaining the decision to balance the benefits of the proposed MWMP against significant and unavoidable environmental impacts, if any (see also California Public Resources Code, Section 21081).

2.3 EIR FORMAT

Based on a review of the MWMP and comments received during the NOP public review period, the City determined that the scope of the EIR would address the following technical issue areas:

- Aesthetics/Visual Effects and Neighborhood Character

- Air Quality and Odor
- Biological Resources
- Greenhouse Gas Emissions
- Health and Safety Hazards
- Historical, Archaeological, and Tribal Cultural Resources
- Hydrology
- Land Use
- Noise
- Paleontological Resources
- Solid Waste
- Water Quality

The evaluation of these subjects or technical issue areas is presented in a resource-by-resource basis in Chapter 5, Environmental Analysis, in Sections 5.1 through 5.12. The issue areas that were found not to have significant impacts are agricultural resources; compatibility with airport land use compatibility plan; geologic conditions; growth inducement; hazards due to proximity to airport; light, glare, and shading; mineral resources; physically divide an established community; population and housing; public services and facilities; public utilities; substantial alteration of air movement; transportation, circulation, and parking; transportation noise or incompatibility with aircraft noise; and energy. These issue areas are briefly analyzed in Chapter 7, Effects Not Found to Be Significant.

This EIR evaluates the direct impacts, reasonably foreseeable indirect impacts, and cumulative impacts resulting from planning, construction, and operation of the proposed MWMP using the most current information available, and in accordance with the provisions set forth in CEQA and in the CEQA Guidelines. In addition, the EIR recommends potentially feasible mitigation measures, where possible, and Alternatives to the MWMP that would reduce or eliminate significant adverse environmental effects.

Chapter 8, Comparison of Alternatives, of this EIR was prepared in accordance with Section 15126.6 of the CEQA Guidelines. CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. However, project modification or alternatives are not required where significant environmental impacts would not occur.

2.4 ORGANIZATION AND CONTENT OF THE EIR

This EIR is organized to provide a project-level analysis of the potentially significant environmental impacts, mitigation measures, and Alternatives for the proposed MWMP. To describe the direct, indirect, and cumulative impacts; mitigation measures; and Alternatives for the proposed MWMP, this EIR is organized as follows:

- **Chapter 1: Executive Summary.** Summarizes the elements of the proposed MWMP and the environmental impacts that could result from implementation of the MWMP; identifies each significant impact, describes proposed mitigation measures and alternatives that would reduce or avoid that impact, and indicates the level of significance of impacts before and after mitigation; identifies the areas of controversy known to the lead agency; and describes further analysis and mitigation to be implemented for subsequent environmental review.
- **Chapter 2: Introduction.** Provides an introduction and overview of the EIR process, describes the intended use of the EIR and the review process, and outlines the contents of the EIR.
- **Chapter 3: Environmental Setting.** Contains a description of the physical environmental conditions in the vicinity of the MWMP area from both a local and regional perspective. The environmental setting is intended, in part, to constitute the baseline physical conditions based on which the EIR determines whether an impact is significant.
- **Chapter 4: Project Description.** Provides a detailed description of the proposed MWMP, including its location; background information; objectives; and technical, economic, and environmental characteristics and project features, and describes the intended uses of this EIR.
- **Chapter 5: Environmental Analysis.** Describes the baseline environmental setting and provides an assessment of potential MWMP impacts for each technical issue area presented. Each section is divided into sub-sections: Introduction, Existing Conditions, Regulatory Setting, Thresholds of Significance, Impacts, Significance of Impact, Mitigation Measures, Significance after Mitigation, and References; some sections also have an Approach and Methodologies sub-section.
- **Chapter 6: Cumulative Impacts.** Identifies the cumulative impacts of the proposed MWMP in combination with other past, planned, and probable future development in the region.
- **Chapter 7: Effects Not Found to Be Significant.** Lists all of the issues determined in the Initial Study to be not significant, including a brief summary of the basis for this determination.
- **Chapter 8: Alternatives.** Describes and compares the proposed Alternatives to the proposed MWMP.
- **Chapter 9: Mandatory Discussion Areas.** Provides information required by CEQA regarding impacts that would result from the proposed MWMP, including a summary of significant

effects that cannot be avoided, and secondary impacts, including potential impacts resulting from growth inducement and significant irreversible changes to the environment.

- **Chapter 10: References.** Provides a list of references used in preparation of the environmental analysis.
- **Chapter 11: List of Preparers.** Identifies all of the people who were directly involved in preparation of this EIR.
- **Appendices.** Includes various documents, technical reports, and data that support the analysis presented in this EIR.

2.5 DISCRETIONARY ACTIONS AND APPROVALS

As lead agency, the City's Planning Department has the authority to implement CEQA and is responsible for the environmental review and analysis of discretionary projects. Environmental review will be conducted in accordance with the City's adopted *California Environmental Quality Act Significance Determination Thresholds* (City of San Diego 2016). The MWMP would require a variety of discretionary actions, approvals, and permits by the City and various agencies. It is anticipated that this EIR will be used by these agencies in their decision-making process. Table 2-1 summarizes the future discretionary actions, approvals, and permits anticipated to be required as part of the implementation of the various components of the MWMP, and identifies agencies that would be responsible for granting the approvals and permits.

Table 2-1
Discretionary Actions and Approvals

Discretionary Action/Approval/Permit	Agency
Ordinance	City of San Diego
Site Development Permit	City of San Diego
Coastal Development Permit(s)	City of San Diego and California Coastal Commission
Section 401 Permit – Clean Water Act, Water Quality Certification	State Water Resources Control Board/ Regional Water Quality Control Board
Section 404 Permit – Clean Water Act	U.S. Army Corps of Engineers
Section 7 Consultation	U.S. Fish and Wildlife Service
Section 106 Consultation	State Historic Preservation Office
Section 1602 Streambed Alteration Agreement	California Department of Fish and Wildlife
Waste Discharge Requirements	State Water Resources Control Board

2.6 SUBSEQUENT APPROVALS

The Site Development Permit (SDP) and Coastal Development Permit (CDP) would allow for implementation of the MWMP using the subsequent review process outlined in Table 2-2, Development Services Department Subsequent MWMP Process Flow Chart. Subsequent activities outside the coastal overlay zone that are analyzed at the project level in this EIR would be authorized through Substantial Conformance Review (SCR) Process One. Subsequent review of MWMP activities located inside the coastal overlay zone that are analyzed at the project level in this EIR would be authorized through a SCR Process Two to provide an opportunity for public appeal of the decision to San Diego City Council and California Coastal Commission.

For programmatic activities (e.g., MWMP amendments to add/substantially amend FMPs, compensatory mitigation sites, or emergency maintenance) where the environmental impacts of those activities are sufficiently addressed in the MWMP EIR, a SCR Process Two will be required. For activities not addressed in the MWMP EIR, a separate review, likely under a separate or amended SDP/CDP, will be required in accordance with LDC Section(s) 126.0113, 126.0504, and 126.0707. Minor maintenance is described in Chapter 4, Project Description, as being limited to activities that do not require discretionary approval or environmental review, and, therefore, would continue as is current practice. Minor maintenance activities are included in Chapter 4, Project Description, and in the MWMP to comprehensively address storm water infrastructure maintenance and repair activities. Emergency activities may be initially authorized through established emergency procedures but would require after-the-fact approvals in accordance with the appropriate process for that activity/facility.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Table 2-2
Development Services Department Subsequent MWMP Process Flow Chart

Step 1: Was the subsequent activity analyzed at the project level in the MWMP EIR and covered by associated permits? If YES, go to Step 2. If NO, go to Step 4.							
Step 2: Does the subsequent activity encroach into ESL? If YES, go to Step 3 for projects outside the Coastal Zone. For projects within the Coastal Zone, go to Step 4. If NO, DSD review is not required but work may be authorized by TSW Environmental Planning & Permitting Group staff.							
Step 3: Determine activity/project and subsequent review process.							
Activity/Project Type		**COVERED BY MWMP EIR, SDP, and CDP**			**NOT COVERED UNDER MWMP EIR, SDP, and CDP**		
Subsequent DSD Approval Process		No DSD Review	SCR Process 1	SCR Process 2	Process 4 SDP/CDP[2]	Process 4 SDP/CDP[2]	Process 4 SDP/CDP[2]
Subsequent CEQA Analysis			CEQA 15162 Consistency Evaluation	CEQA 15162 Consistency Evaluation/Tiered Environmental Document	NOE (Statutory)	NOE+NORA (Categorical)	MND/EIR
A	Maintenance of drainage conveyance facility (e.g., earthen-bottom and concrete-lined channels, culverts, and brow ditches)		X				
B	Maintenance of structural drainage facilities (e.g., outlets, headwalls, dissipaters, spillway)		X				
C	Maintenance of structural BMPs (e.g., vegetated swales, detention basins)		X				
D	Creation and/or maintenance of habitat-based mitigation (e.g., invasive removal, channel restoration)		X				
E	Approval of a Multiple Species Conservation Program / MHPA Boundary Line Adjustment			X			
F	Creation and/or maintenance of water quality improvement activities (e.g., treatment BMPs, hydromodification BMPs, alternative compliance)		X				
G	Minor Maintenance[1] – Regular maintenance of drainage conveyance facility, structural drainage facility, structural BMP, habitat-based mitigation, or water quality improvement activity and would not permanently impact ESL.	X					

Source: EIR Appendix A.

[1] Refer to LDC ESL Regulations, Section 143.0110(c), for development activities that do not require an SDP.

[2] Or current decision process in accordance with LDC Section(s) 126.0113, 126.0504, and 126.0707.

Notes: BMP = best management practice; CDP = Coastal Development Permit; CEQA = California Environmental Quality Act; DSD = Development Services Department; EIR = Environmental Impact Report; ESL = Environmentally Sensitive Lands; MHPA = Multi-Habitat Planning Area; MND = Mitigated Negative Declaration; NOE = Notice of Exemption; NORA = Notice of Right to Appeal; SCR = Substantial Conformance Review; SDP = Site Development Permit; TSW = Transportation & Storm Water Department; MWMP = Municipal Waterways Maintenance Plan.

Table 2-2
Development Services Department Subsequent MWMP Process Flow Chart

Step 4: Was the subsequent activity included in the MWMP EIR and either (1) occurs within the Coastal Zone; or (2) is covered by associated permits at a programmatic level only? If YES, go to Step 5. If NO, go to Step 7.							
Step 5: Does the subsequent project encroach into ESL? If YES, go to Step 6. If NO, DSD review is not required, but work may be authorized by TSW Environmental Planning & Permitting Group staff.							
Step 6: Determine Activity Type and Process.							
Activity/Project Type		**COVERED BY MWMP EIR, SDP, and CDP**			**NOT COVERED UNDER MWMP PEIR, SDP, and CDP**		
Subsequent DSD Approval Process			SCR Process 1	SCR Process 2	Process 4 SDP/CDP[2]	Process 4 SDP/CDP[2]	Process 4 SDP/CDP[2]
Subsequent CEQA Analysis		No DSD Review	CEQA 15162 Consistency Evaluation	CEQA 15162 Consistency Evaluation/Tiered Environmental Document	NOE (Statutory)	NOE+NORA (Categorical)	MND/EIR
A	Maintenance of drainage conveyance facility (e.g., earthen-bottom and concrete-lined channels, culverts, and brow ditches)			X			
B	Maintenance of structural drainage facilities (e.g., outlets, headwalls, dissipaters, spillway)			X			
C	Maintenance of structural BMPs (e.g., vegetated swales, detention basins)			X			
D	Creation and/or maintenance of habitat-based mitigation (e.g., invasive removal, channel restoration); and/or an approval of a Multiple Species Conservation Program / MHPA Boundary Line Adjustment			X			
E	Creation and/or maintenance of water quality improvement activities (e.g., treatment BMPs, hydromodification BMPs, alternative compliance)			X			
F	Minor Maintenance[1] – Regular maintenance of drainage conveyance facility, structural drainage facility, structural BMP, habitat-based mitigation, or water quality improvement activity and would not permanently impact ESL.	X					

Source: EIR Appendix A.

[1] Refer to LDC ESL Regulations, Section 143.0110(c), for development activities that do not require an SDP.

[2] Or current decision process in accordance with LDC Section(s) 126.0113, 126.0504, and 126.0707.

Notes: BMP = best management practice; CDP = Coastal Development Permit; CEQA = California Environmental Quality Act; DSD = Development Services Department; EIR = Environmental Impact Report; ESL = Environmentally Sensitive Lands; MHPA = Multi-Habitat Planning Area; MND = Mitigated Negative Declaration; NOE = Notice of Exemption; NORA = Notice of Right to Appeal; SCR = Substantial Conformance Review; SDP = Site Development Permit; TSW = Transportation & Storm Water Department; MWMP = Municipal Waterways Maintenance Plan.

Table 2-2
Development Services Department Subsequent MWMP Process Flow Chart

Step 7: Was the subsequent activity or facility NOT included in the MWMP EIR and/or covered by associated permits (i.e., SDP or CDP) at a project or programmatic level; or is NOT covered by another CEQA document and/or permit? If YES, go to Step 8. If NO, a discretionary permit and CEQA evaluation may be required for the project.							
Step 8: Does the subsequent project impact ESL and deviate from ESL Regulations -or- otherwise require a CDP? If YES, go to Step 9. If NO, DSD review is not required but work may be authorized by TSW Environmental Planning & Permitting Group staff.							
Step 9: Determine Activity Type and Process.							
Activity/Project Type		**COVERED BY MWMP EIR, SDP, and CDP**			**NOT COVERED UNDER MWMP PEIR, SDP, and CDP**		
Subsequent DSD Approval Process		No DSD Review	Process 1	Process 2	Process 4 SDP/CDP or Amended SDP/CDP[2]	Process 4 SDP/CDP or Amended SDP/CDP[2]	Process 4 SDP/CDP or Amended SDP/CDP[2]
Subsequent CEQA Analysis			CEQA 15162 Consistency Evaluation	CEQA 15162 Consistency Evaluation/Tiered Environmental Document	NOE (Statutory)	NOE+NORA (Categorical)	MND/EIR or CEQA 15162 Consistency Evaluation/Tiered Environmental Document
A	Maintenance of drainage conveyance facility (e.g., earthen-bottom and concrete-lined channels, culverts, and brow ditches) using mechanized equipment						X
B	Maintenance of structural drainage facilities (e.g., outlets, headwalls, dissipaters, spillway) using mechanized equipment					X	X
C	Maintenance of structural BMPs (e.g., vegetated swales, detention basins) using mechanized equipment					X	
D	Creation and/or maintenance of habitat-based mitigation (e.g., invasive removal, channel restoration) using mechanized equipment and/or hand tools; and/or an approval of a Multiple Species Conservation Program / MHPA Boundary Line Adjustment					X	X
E	Creation and/or maintenance of water quality improvement activities (e.g., treatment BMPs, hydromodification BMPs, alternative compliance) using mechanized equipment and/or hand tools					X	X
F	Minor Maintenance[1] – Regular maintenance of drainage conveyance facility, structural drainage facility, structural BMP, habitat-based mitigation, or water quality improvement activity and would not permanently impact ESL.	X					

Source: EIR Appendix A.

1 Refer to LDC ESL Regulations, Section 143.0110(c), for development activities that do not require an SDP.

2 Or current decision process in accordance with LDC Section(s) 126.0113, 126.0504, and 126.0707.

Notes: BMP = best management practice; CDP = Coastal Development Permit; CEQA = California Environmental Quality Act; DSD = Development Services Department; EIR = Environmental Impact Report; ESL = Environmentally Sensitive Lands; MHPA = Multi-Habitat Planning Area; MND = Mitigated Negative Declaration; NOE = Notice of Exemption; NORA = Notice of Right to Appeal; SCR = Substantial Conformance Review; SDP = Site Development Permit; TSW = Transportation & Storm Water Department; MWMP = Municipal Waterways Maintenance Plan.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

CHAPTER 3 ENVIRONMENTAL SETTING

3.1 LOCATION

The proposed *Municipal Waterways Maintenance Plan* (MWMP) covers maintenance and repair of the municipal separate storm sewer system (MS4) for the City of San Diego (City), which is distributed throughout the 342-square-mile metropolitan area (Figure 3-1, Regional Map). In general, the MS4 conveys storm water runoff from natural and developed areas to receiving waters (Figure 3-2, Vicinity Map). The City's MS4 is an interconnected system of constructed drains, pipes, and channels that discharge to natural drainages and receiving waters. As a result, the physical characteristics vary with the individual components of the MS4.

3.2 PHYSICAL CHARACTERISTICS

3.2.1 EXISTING REGIONAL CHARACTERISTICS

Landforms and Vegetation

The landform features that make up the City are typical of the coastal plain area. The coastal plain slopes gently upward to the eastern foothills and has eroded into separate mesas. The coastal plain has been incised by numerous side canyons flowing into major creeks and rivers that generally flow westward toward the coast and are unique to the region. These major creeks and river systems consist of (from north to south) Los Peñasquitos Canyon Creek, Rose Creek, San Diego River, Alvarado Creek, Chollas Creek, Otay River, Nestor Creek, and Tijuana River.

In general, development in the City is concentrated on flat mesas and valleys interspersed with natural and urbanized canyon areas. During rain events and wet conditions, storm water and urban runoff is typically collected via drains from impervious surfaces, such as buildings, rooftops, paved driveways, and improved streets, and is conveyed downstream via the City's MS4. When runoff cannot infiltrate into the ground, precipitation follows drainage patterns, collecting contaminants, sediment, and debris along the way, and discharges to low points and channel areas via storm drain outlet assets.

East–west canyons and valleys, which are unique to region, divide the coastal plain into north–south components, and three marine terraces separate the coastal plain into three platform mesas. Each terrace steps up in elevation toward the inland foothills. The La Jolla Terrace is closest to the coast, with elevations of 50 to 70 feet above mean sea level. Farther east, at elevations of 300 to 500 feet above mean sea level, is the Linda Vista Terrace, which is the largest terrace and contains such "mesa" communities as Mira Mesa, Kearny Mesa, and Clairemont Mesa. The majority of the third terrace, the Poway Terrace, has been eroded away and is no longer a distinct landform.

The MWMP biological study area has a diversity of vegetation and wildlife. Several distinct wetland/riparian species occur within the MWMP study area communities of southern riparian forest, southern sycamore riparian woodland, southern willow scrub, riparian woodland, mulefat scrub, riparian scrub, freshwater marsh, cismontane alkali marsh, southern coastal salt marsh, coastal brackish marsh, disturbed wetland, and natural flood channel/open water/streambed. Upland vegetation communities in the MWMP study area consist of coast live oak woodland, scrub oak chaparral, southern foredunes, beach, Diegan coastal sage scrub, coastal sage–chaparral scrub, broom baccharis scrub, southern mixed chaparral, non-native grassland, eucalyptus woodland, non-native vegetation/ornamental, disturbed habitat/ruderal, and developed land. Numerous plants and wildlife species, including invertebrates, amphibians, reptiles, birds, and mammals, occur within the MWMP study area and are associated with these vegetation communities.

3.2.2 EXISTING ON-SITE USES

The City's Transportation & Storm Water Department (TSW) is responsible for managing the drainage system on City-owned properties, within City public rights-of-way, and within drainage easements dedicated to the City to minimize flood risk and protect water quality, as stipulated in Section 26.1 of the San Diego City Charter and City of San Diego Policy 800-04. Based on a current asset inventory, TSW annually inspects and prioritizes approximately 50 miles of channels that it may be responsible for managing. TSW has conducted prior assessments of canyon drain structures, and generally inspects storm drain structures on an as-needed basis.

The City's existing MS4 is composed of a number of different types of facilities designed to transport storm runoff through the metropolitan area. Storm water facilities include a network of underground storm drain pipes, culverts, outlet/inlet structures (e.g., headwalls), detention/desilting/sedimentation basins, ditches, and channels. Storm water primarily starts on private property and public roadways. It makes its way to gutters through surface flows or curb outlet systems. Larger projects may tie directly into a public storm drain system, but the majority of properties drain into the gutter fronting the property. The flow is then carried in the gutter until it becomes large enough to warrant the need for a curb inlet and undergrounding. The flow drops into the inlet and then enters a storm drain pipe. As the flow moves down the drainage basin, more and more pipes connect and the system gradually gets larger to handle the increased volume of water. Eventually, the storm drain pipes discharge their water into an open channel, which could be either public or private, that carries the water to the ocean or other containment body.

The focus of the proposed MWMP is on channels/ditches, basins, and inlet/outlet drain structures because these facilities require proactive maintenance to ensure adequate flood risk reduction. Channels and ditches include built structures (concrete-lined or earthen-bottom) created specifically for the conveyance of storm water, and natural channels that carry water through urbanized areas.

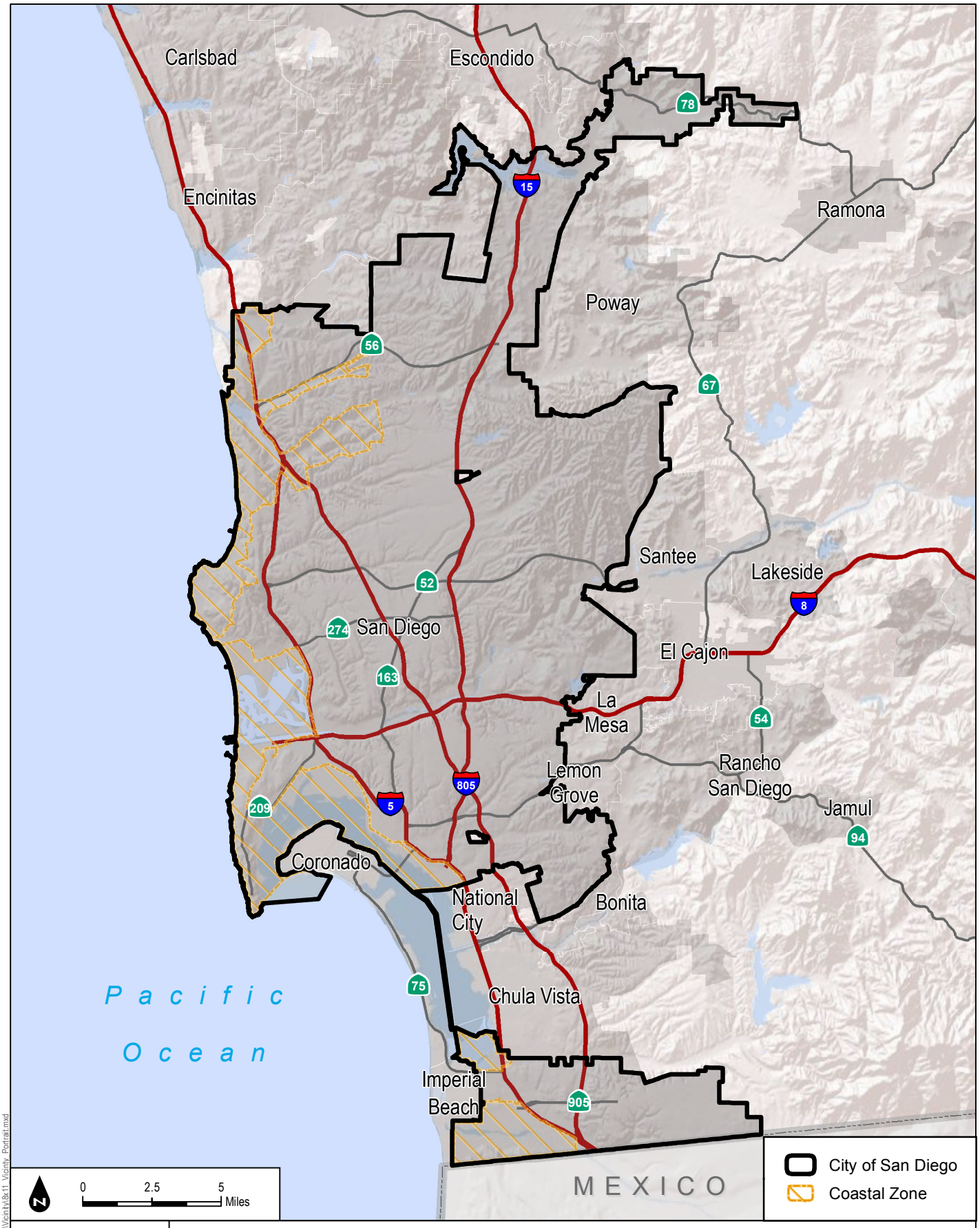
TSW has an inventory of the following structures, as defined by City Council Policy 800-04: storm drain pipes, brow ditches, culverts, drainage structures (e.g., storm drain outlets, inlets, headwalls, cleanouts) within the public right-of-way, and permanent best management practice facilities (e.g., bioretention basins, vegetated swales). Based on TSW staff experience and review of example facilities, maintenance of storm drain pipes, brow ditches, box culverts, and permanent best management practices (e.g., catch basin inserts, biofiltration areas) are categorized as minor maintenance activities when maintenance of these facilities does not encroach on environmentally sensitive areas. Maintenance activities within these facilities are generally not regulated by, or do not require a permit from the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, Regional Water Quality Control Board, California Coastal Commission, or the City's Development Services Department. However, routine maintenance activities require permits from the regulatory agencies and the City's Development Services Department.

3.3 APPLICABLE LAND USE PLANS AND REGULATIONS

The following planning documents and regulations are applicable to the MWMP and are further discussed in Section 5.3, Biological Resources; Section 5.4, Greenhouse Gas Emissions; Section 5.6, Historical, Archaeological, and Tribal Cultural Resources; Section 5.7, Hydrology; Section 5.8, Land Use; and Section 5.12, Water Quality:

- *City of San Diego General Plan*
- *Community, Subarea, Park/Preserve, and Other City Land Use, Area, and Park Plans*
- *City of San Diego Climate Action Plan*
- *City of San Diego Multiple Species Conservation Program Subarea Plan*
- City of San Diego Environmentally Sensitive Lands Regulations
- City of San Diego Coastal Development Permit Procedures
- City of San Diego Historical Resources Guidelines
- City of San Diego Storm Water Runoff and Drainage Regulations
- City of San Diego Storm Water Management and Discharge Control Ordinance

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



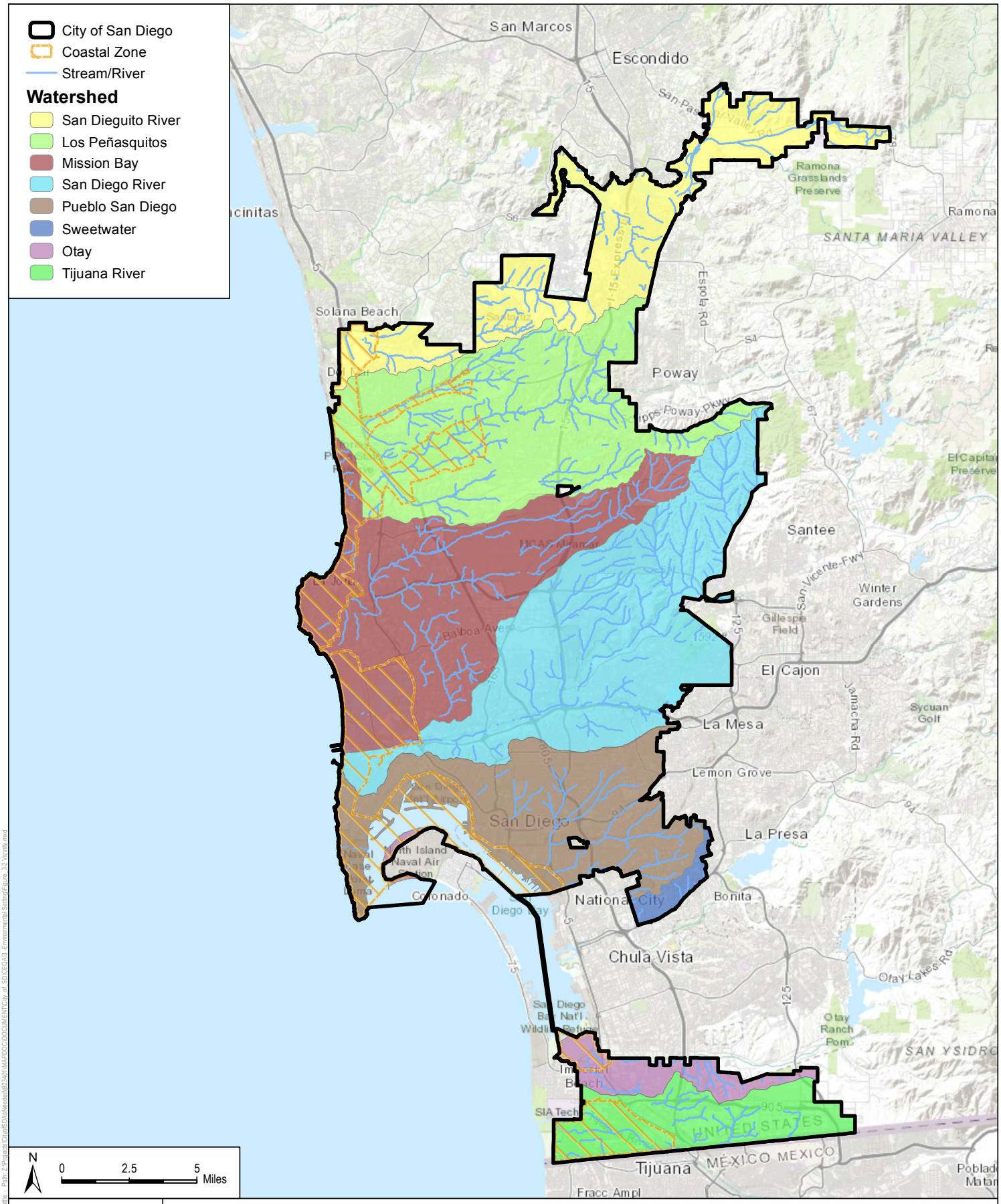
DUDEK

Municipal Waterways Maintenance Plan EIR

Figure 3-1 - Regional Map

Z:\Templates\Arcmap\Current\Vicinity\8x11_Vicinity_Portrait.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



DUDEK

Municipal Waterways Maintenance Plan EIR

SOURCE: ESRI, 2017

Figure 3-2 - Vicinity Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

CHAPTER 4 PROJECT DESCRIPTION

This chapter provides a description of the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP), the environmental effects of which are evaluated in Chapters 5 through 9 of this Environmental Impact Report (EIR). The MWMP location, history, purpose and need, and objectives are described immediately below, followed by a description of MWMP characteristics and a summary of the discretionary actions that would be required. Section 15124 of the California Environmental Quality Act (CEQA) sets forth specific technical requirements for the project description, and includes items such as the precise location of the project; a statement of the project's objectives; and a general description of the project's technical, economic, and environmental characteristics.

4.1 PROJECT LOCATION

Under City Charter Section 26.1 and Council Policy 800-04 (City of San Diego 2012), the City is responsible for maintaining adequate drainage facilities to remove storm water runoff in an efficient, economic, and environmentally and aesthetically acceptable manner for the protection of property and life (see Figure 3-1, Regional Map, in Chapter 3, Environmental Setting). The City generally accepts responsibility for maintenance of public drainage facilities that are designed and constructed to City standards and located within a public street or drainage easement dedicated to the City. The City's storm water conveyance system serves to convey storm water flows to protect the life and property of its citizens from potential flooding within the six watershed management areas (WMAs) and seven hydrologic units (HUs) within the City (see Table 4-1, below, and Figure 3-2, Vicinity Map, in Chapter 3). For purposes of the MWMP and this EIR, a combination of these WMAs and HUs are used throughout this document to organize lists and figures of facilities and compensatory mitigation sites into eight watersheds (Table 4-1). The City's storm water conveyance system also serves to convey urban runoff from pervious and impervious surfaces and development, such as irrigated landscape areas, driveways, and streets that flow into drainage facilities and, ultimately, to the ocean. Additionally, the City's storm water conveyance system helps to protect water quality, and open facilities, such as channels, can support natural resources, including wetland habitat.

Table 4-1
Watershed Management Areas and
Hydrologic Units in the City of San Diego and MWMP Watersheds

Watershed Management Areas	Hydrologic Units	Watersheds Used in the MWMP
San Dieguito River	San Dieguito	San Dieguito Watershed
Los Peñasquitos	Peñasquitos	Los Peñasquitos Watershed
Mission Bay		Mission Bay Watershed
San Diego River	San Diego River	San Diego River Watershed
San Diego Bay	Pueblo San Diego	Pueblo San Diego Watershed
	Sweetwater	Sweetwater Watershed
	Otay	Otay Watershed
Tijuana River	Tijuana	Tijuana River Watershed

Facilities covered within the MWMP would be distributed throughout the eight watersheds, with the highest concentration of facilities in the San Diego River and Pueblo San Diego watersheds. Flood risk in these watersheds is higher due to lower or non-existent flood protection standards required at the time of development, as well as increase in runoff from the addition of impervious area from new development.

The following plan-wide facilities comprise the City's storm water system:

- Approximately 50 miles of channels, ditches, and basins
- 48,561 drainage conveyance facilities (including storm drain pipes and channels)
- 55,334 structures (including inlets, outlets, cleanouts, and connectors)
- 3,724 drainage best management practice (BMP) facilities
- 85 Capital Improvement Program (CIP) facilities (outlets, BMPs, and stream restoration)

4.2 PROGRAM BACKGROUND

Although City Council Policy 700-44 (City of San Diego 1984) establishes the responsibility to protect private properties from flood damage to be with the property owners themselves, the City's Transportation & Storm Water Department (TSW) is responsible for evaluating and conducting maintenance and repair of the public municipal storm water conveyance system throughout much of the City. To maintain the system's effectiveness, the proposed MWMP identifies specific activities, methods, and procedures that would guide ongoing maintenance and repair of facilities. The MWMP provides a comprehensive approach to identify and regulate maintenance and repair activities,

primarily within open storm water facilities (i.e., those facilities located above ground and not within closed systems, such as pipes).

4.2.1 PREVIOUS MASTER STORM WATER SYSTEM MAINTENANCE PROGRAM

In 2013, the City developed the Master Storm Water System Maintenance Program (MMP) to govern channel operation and maintenance activities in an efficient, economic, environmentally and aesthetically acceptable manner to provide flood risk reduction for the protection of life and property. The MMP identified a specific planning, impact assessment, and mitigation process for channel maintenance activities within portions of the City's jurisdiction. The channel facilities included in the certified Final Recirculated Programmatic Environmental Impact Report (PEIR) for the MMP included 112 facility segments, covering a linear distance of 32 miles.

For each channel maintenance project conducted under the MMP, an *Individual Maintenance Plan* (IMP) and related Individual Technical Assessments would be prepared (City of San Diego 2013a). The IMP identified the scope of work, maintenance methodology and procedures, equipment, and duration for maintenance activities planned in the channels. The Individual Technical Assessments consisted of an Individual Biological Assessment, Individual Historical Assessment, Individual Hydrologic and Hydraulic Assessment, Individual Water Quality Assessment, and Individual Noise Assessment. The IMPs also included a comprehensive list of BMPs, maintenance protocols, and mitigation measures derived from the applicable permits and regulations that were implemented to avoid, minimize, and/or mitigate potential environmental effects to sensitive resources.

As part of the IMP process, the Individual Hydrologic and Hydraulic Assessment and Individual Biological Assessment provided key data that allowed for evaluation of the need, potential impacts, and alternatives to channel maintenance activities, and to inform the specific maintenance methodology, equipment, duration, and procedures for each channel area prior to maintenance. The IMP and Individual Technical Assessments were compiled into a Substantial Conformance Review (SCR) package for review and approval by the City's Development Services Department under the provisions identified in the MMP document, as well as the approved Site Development Permit and certified PEIR.

In addition to the City's SCR process, the City was also required to obtain permit authorization from the California Department of Fish and Wildlife (CDFW), San Diego Regional Water Quality Control Board (RWQCB), U.S. Army Corps of Engineers (USACE), and California Coastal Commission (CCC) for approval under the terms and conditions of their respective regulatory authorities.

A lawsuit was filed regarding the MMP (*San Diegans for Open Government et al. v. City of San Diego*, San Diego Superior Court Case No. 37-2011-00101571), and the City entered into a settlement

agreement in 2013, which required, among other things, that the PEIR be considered null and void as of September 2018 (*SDOG v. City of San Diego* 2013).

4.2.2 SEPARATE BUT RELATED PROJECTS AND PROGRAMS

The following projects and programs specifically affect flood risk reduction and water quality conditions within the City, and therefore have the potential to affect the need for facility maintenance. TSW has adopted a holistic management approach that seeks to maintain and improve the storm water conveyance systems simultaneously (Figure 4-1, City of San Diego Transportation & Storm Water Department Holistic Approach; Figure 4-2, City-Wide Overview/Index Map; and Figures 4-2a through 4-2h, showing individual watersheds) by having complementary programs that provide information to managers that allow for effective decision making regarding City funding and implementation of studies, designs, plans, and maintenance activities.

Currently, TSW operates the following three concurrent and complementary planning processes:

- **Proposed MWMP** – Provides guidance and parameters for maintenance and repair of the storm water conveyance system necessary to provide flood risk reduction in areas where potential local, state, and federally regulated impacts may be necessary to provide flood risk reduction.
- **Water Quality Improvement Plans (WQIPs)** – Provide watershed-based regulatory evaluations of water quality conditions and require efforts by municipal storm water permittees to improve these water quality conditions.
- **Watershed Master Plans (WMPs)** – Provide an evaluation of the storm water conveyance system within each watershed or drainage area within the City to determine conveyance capacity, infrastructure longevity, and opportunities for multi-benefit infrastructure improvements that achieve as many of the following goals as possible:
    - Reduce flood risk.
    - Improve water quality.
    - Restore streams and waterways with native habitat.

Based on this approach, information would be provided to the WMP and WQIP teams for facilities where maintenance would be proposed under the MWMP and the engineering evaluation or field observations indicate that an improvement may be required. Similarly, information from the WMPs or WQIPs would be used in the MWMP. For example, a more limited maintenance approach may be used as an interim as-needed measure in areas where larger system improvements are planned in the near future.

It is the intent of the City that effective integration of these programs would facilitate improvements to drainage conditions throughout the City. Each program alone cannot fully address current and

future maintenance and improvement needs or regulatory requirements. However, when implemented in an integrated fashion, the overall strategy would allow the City to meet all regulatory requirements and effectively plan for future improvements that are expected to reduce the need and frequency of maintenance.

TSW also conducts planning and public outreach to ensure that decision makers and the public have information regarding the costs for long-term improvements and the potential benefits in terms of flood risk reduction, stream restoration, water quality protection, and overall quality of life.

4.2.2.1 Water Quality Improvement Plans

TSW works with other jurisdictions (Responsible Agencies) to develop WQIPs for six WMAs in the San Diego region. The City is the lead on WQIP development for the San Dieguito River, Los Peñasquitos, and Mission Bay WMAs, and is a participating agency on WQIP development for the San Diego River, San Diego Bay, and Tijuana River WMAs. The goal of WQIPs is to protect, preserve, enhance, and restore water quality of receiving water bodies and is intended to be accomplished through an adaptive planning and management process. Further, this process identifies the highest priority water quality conditions within a watershed and implements strategies to achieve improvements in the quality of discharges from the Responsible Agencies' storm drain systems (City of San Diego 2017).

The preparation and implementation of WQIPs is a requirement of updated storm water regulations adopted by the RWQCB in accordance with Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100.

4.2.2.2 Watershed Master Plans

Long-term planning efforts for flood risk management, such as the development of WMPs, have the potential to inform development and implementation of the MWMP.

The need to develop WMPs for the City's watersheds was identified in the 2008 Jurisdictional Urban Runoff Management Program as part of the *General Plan* update and land use planning. The Jurisdictional Urban Runoff Management Program identified the WMPs as a water quality improvement policy in the *General Plan*: "Develop and employ Master Drainage Plans for the City's watersheds to foster a comprehensive approach to storm water infrastructure improvements."

The *Watershed Asset Management Plan* process also pointed to the need for WMPs. It was determined that long-term planning for flood risk management was undervalued, and the risk for flood management was higher than the risk for non-compliance with water quality requirements.

The City is in the process of developing WMPs for the Chollas, Los Peñasquitos, Maple Canyon, and Mission Bay watersheds.

Development of the WMPs includes a hydrology and hydraulics (H&H) analysis, recommended storm drain and/or detention facility improvements, facilities cost estimates, and priority ranking. Identification of proposed drainage improvements under the WMPs includes recommendations for water quality facilities siting and design/identification of regional water quality BMPs, potential for water quality enhancement opportunities and integration of storm water quality concerns with the municipal separate storm sewer system (MS4) capacity requirements, potential for multiple benefit projects, and integration of stream restoration/enhancement opportunities. An evaluation of floodplain/riparian land acquisitions and preservation would be performed based on criteria defined in the MS4 Permit and initial supporting documents related to the Alternative Compliance program. The WMPs would also identify drainage improvements where maintenance is required, and recommend improvements/projects that may help avoid or minimize future maintenance, a programmatic goal of the MWMP. For example, the WMPs would identify channel improvements to address areas of insufficient capacity and/or instability and erosion of existing channel, to reduce sedimentation in downstream areas and minimize channel maintenance activities.

4.2.2.3 Capital Improvement Program

The City's CIP is the long-range plan for all individual capital improvement projects and funding sources. CIP projects are unique construction projects that provide improvements or additions such as land, buildings, and infrastructure. CIP projects are construction projects that provide tangible, long-term improvements or additions of a fixed or permanent nature, such as a new or expanded library, or replacement of older water pipes. Decisions made regarding the CIP are important because CIP projects are generally large and expensive, and the assets will likely be used by the public for decades (City of San Diego 2016).

Asset-owning City departments that operate, manage, or maintain capital assets—such as Public Utilities, TSW, and Parks & Recreation—are responsible for identifying needed CIP projects. Department staff provides a ranking for each project based on Council Policy 800-14, which includes guidelines and weighted factors, such as risk to health and safety, asset condition and impact of deferring the project, community investment, funding availability, and project readiness (City of San Diego 2016). Once priority projects are identified, asset-owning department-staff work with the Mayor, City Council, and appropriate City departments, such as Financial Management and Debt Management, to identify funding.

TSW's long-term goal is to make a significant investment in the planning, design, and construction of storm water capital infrastructure facilities and is actively working to reduce costs by discussing with regulatory agencies ways to refine compliance regulations that address storm water quality issues. The projected capital needs will improve storm water discharge quality in compliance with storm water regulations and serve to reduce flood risk during rain events by replacing high risk assets, such as corrugated metal pipe (City of San Diego 2017).

4.3 PROPOSED MUNICIPAL WATERWAYS MAINTENANCE PLAN

To maintain the storm water system's effectiveness, the proposed MWMP (Appendix A) identifies specific activities, methods, and procedures that would guide ongoing maintenance and repair of facilities. The MWMP provides a comprehensive approach to identify and regulate maintenance and repair activities within open storm water facilities.

Maintenance and repairs are an important component of operating the storm water conveyance system and providing reliable flood risk reduction throughout the City. Many storm water facilities were originally designed to require ongoing maintenance and repair. For example, concrete-lined trapezoidal channels are often designed to convey the 100-year storm event. However, if sediment accumulates in the channels, and vegetation establishes within the sediment, the conveyance capacity is often reduced, and adjacent developed properties are at greater risk of flooding. In other cases, storm water facilities damaged during large storm events require repair (e.g., replacement of broken concrete lining or dislodged riprap) to continue to provide safe storm water conveyance according to the original facility design. Finally, there are areas of the City where development or conditions have changed within the watershed, resulting in greater or faster storm water flows than predicted during the facility design, or the original design does not meet current standards. In these cases, a CIP project is often needed to address the potential flood risk that exists or erosion potential due to a design that no longer meets the needs of the surrounding area; however, maintenance (removal of accumulated vegetation and sediment) may help alleviate the flood risk on an interim basis until a CIP project is designed and constructed.

Council Policy 800-04 states that the City generally only accepts responsibility for maintenance or repair of public drainage facilities that are designed and constructed to City standards and are located within a public street or drainage easement dedicated to the City (City of San Diego 2012). The MWMP is intended to only include storm water facilities, specifically open channels, detention basins, and drain structures that TSW has the responsibility to maintain. However, this responsibility is subject to verification at the time of maintenance and has not been verified for all facilities in the MWMP. In addition, Council Policy 700-44 encourages and establishes the responsibility for private property owners to implement flood control measures, such as the use of sandbags, to prevent and protect their property from flood damage (City of San Diego 1984).

4.3.1 OBJECTIVES AND PLAN DEVELOPMENT

The following are the primary objectives of the MWMP:

1. Public safety and flood risk reduction
    - Protect life and property adjacent to, downstream, and upstream of affected channels from flooding and environmental degradation.

2. Responsiveness to reduce flood risk
    - Provide for timely and consistent routine operations and maintenance in the affected channels and associated storm water conveyance infrastructure.
3. Avoid, minimize, and/or mitigate potential effects to environmental resources
    - Avoid, minimize, and/or mitigate significant adverse environmental effects resulting from routine maintenance of storm water facilities.
    - Incorporate and adapt to water quality management strategies intended to protect water quality and address flooding impacts.
4. Proactive and timely approval process
    - Provide project-level analysis upfront to expedite subsequent authorizations for routine and preventive maintenance activities within storm water facilities.
    - Identify a review-and-approval process to include additional storm water facilities and maintenance activities that follow the protocols and requirements of the MWMP.
    - Reduce the need to conduct emergency maintenance during significant storm events by implementing preventive maintenance activities.

As previously stated, the objectives of the MWMP require the ability for TSW to be responsive to newly identified flood risks while also streamlining approvals for routine, preventive maintenance that reduces flood risks. To accomplish this, the MWMP identifies the following:

1. A range of plan-wide activities that may occur throughout the storm water system where flood risks may arise and that would be conducted in accordance with a regulatory framework identified under the MWMP and associated permits.
2. A list of Facility Maintenance Plan (FMPs) that provide specific details and requirements for the majority of facilities that are likely to require routine maintenance and repair.

Together, these two components provide operational flexibility while also providing specific, detailed analysis for the majority of anticipated maintenance and repair activities to streamline the review and approval process (Figure 4-3, Municipal Waterways Maintenance Plan Components).

A summary of the sections below is as follows:

- Section 4.3.2, MWMP Maintenance and Repair Activities and Methods, provides a description of MWMP maintenance and repair activities, methods and environmental protection measures.

- Section 4.3.4, Project-Level Analysis (Facility Maintenance Plans), provides a brief summary of how facilities were selected for evaluation, how specific FMPs that incorporated avoidance and minimization of impacts were developed, and a summary of proposed FMPs.
- Section 4.3.5, Program-Level Analysis (Other Plan-Wide Activities), provides a list of additional plan-wide activities not captured under the project FMPs that could occur and are analyzed at a program level.

4.3.2 MWMP MAINTENANCE AND REPAIR ACTIVITIES AND METHODS

The following is a description of MWMP routine maintenance activities that may occur within a specific FMP or plan-wide within the City. Although these activities may occur anywhere within the City's storm water system, the majority of routine maintenance and repairs are anticipated to occur within the facilities with identified FMPs (see Section 4.3.4.2, Proposed FMPs) and will require permits. Limited maintenance that often provides only partial improvement to flood risks can occur throughout much of the remainder of the system. The scope of work for this limited maintenance is such that it can be done without permits (see Section 4.3.5.1, Minor Maintenance or Repair). Any additional routine maintenance activities that require permits and are not consistent with identified FMPs (e.g., changed conditions) would require subsequent review, consistent with the MWMP framework (see Section 4.3.5, Program-Level Analysis).

The activities listed below provide the purpose of the routine maintenance or repair (e.g., manage vegetation, remove sediment, clear outlet/inlet drain structures, repair infrastructure). Various methods are used to accomplish these activities; these methods are listed in Section 4.3.2.3, Methods, and are grouped by those that pertain to facility maintenance, facility repair, and associated activities such as access, staging, loading, and BMPs.

More detailed descriptions are provided in the MWMP, Appendix A.

4.3.2.1 Maintenance Activities

Based on evaluation of flood risk, with consideration of water quality, native habitat, regulatory requirements, and community concerns, a number of routine and minor maintenance activities may be proposed to reduce flood risk and extend the serviceable life of a facility/structure. These activities are described below.

Vegetation Management. Vegetation management refers to the grubbing, blading, mowing, trimming, and removal of vegetation. Vegetation management activities include vegetation removal and vegetation control activities, such as mowing and/or herbicide application. Grubbing and mowing include the removal of aboveground vegetation leaving root systems mostly intact. Trimming is the removal of limbs or branches from select vegetation that is generally above waist

height and limited to woody vegetation or cutting overhanging vegetation. Removal is the complete removal of aboveground vegetation and below-ground roots, up to the as-built sediment depth. Removal could be conducted through a variety of methods, including mechanized removal, hand removal, and/or herbicide application.

Where feasible, vegetation management focuses on the removal and eradication of non-native invasive species only; such focused efforts are described separately below under, "Invasive Plant Species Management." Areas subject to vegetation management generally require removal of any species found to substantially reduce flood conveyance capacity. The Fire Department may also determine that vegetation removal or management is required if it poses a safety or fire hazard. The City would assess the conditions of the site and determine if vegetation removal may create an unsafe condition. Direct methods used for vegetation management include excavation (both with equipment in the channel and equipment staged outside the channel), mowing, and hand removal/trimming/herbicide application. Depending on the vegetation management method and the type of vegetation affected, such activities may be considered minor maintenance (see Section 4.3.5.1, Minor Maintenance or Repair) or may be considered routine maintenance and require an approved FMP. Methods that may be required to support vegetation management include temporary access/loading, temporary staging, stockpiling, temporary diversion, and BMPs.

Invasive Plant Species Management. In channels or facilities that contain substantial stands of invasive plant species, efforts would be made to remove and eradicate these invasive vegetation communities using mechanized, hand, or herbicide treatment methods within the limits of the permitted work area. Varied methods may be used to accomplish invasive species management, including mechanized removal that involves removal of root structures and sediment, mechanized grubbing or mowing that leaves roots and sediment intact, and/or hand removal. These methods are discussed in Section 4.3.2.3.1, Facility Maintenance, and Section 4.3.5.1, Minor Maintenance or Repair.

Sediment/Debris Removal. Sediment and debris removal involves the removal of excess accumulated sediment and/or debris (i.e., trash and other waste materials). Accumulated sediment can reduce the flow capacity of a facility and increase the potential for flooding. Sediment removal, under this MWMP, is only allowed up to the as-built/original design or established maintenance baseline of the facility and does not include expansion of the facility capacity beyond the original design. In cases where an as-built drawing is not located, the engineering team uses the features of the channel and surrounding infrastructure combined with the knowledge of standard engineering design practices to determine the current design or natural condition of the facility/feature. This includes reviewing the elevation of culverts, extents of any riprap or concrete lining, and dimensions of headwalls/culverts. Direct methods used for sediment removal include excavation (both with equipment in the channel and equipment staged outside the channel) and dredging. Methods that

may be required to support sediment and debris removal include temporary access/loading, temporary staging, stockpiling, temporary diversion, and BMPs.

Structural and/or Debris/Trash-Fence Clearing. Structural clearing involves the removal of built-up debris and vegetation from within or areas directly adjacent to an outlet/inlet structure and/or debris/trash-fence. Channels/ditches often occur directly adjacent to the outlet/inlet structure. Direct methods used for structural clearing include excavation (both with equipment in the channel/ditch adjacent to the outlet/inlet structure and equipment staged outside the channel/ditch adjacent to the outlet/inlet structure) and Vactor trucks staged outside the channel/ditch adjacent to the outlet/inlet, which can vacuum small amounts of sediment or standing water from within an outlet/inlet structure.

Culvert Clearing

Culvert maintenance includes the removal of sediment, trash, and other debris from existing culverts, which are storm water conduits typically under roads. Direct methods used for culvert clearing include excavation with equipment or hand tools in the culvert, and/or Vactor trucks staged outside the culvert that can vacuum small amounts of sediment or standing water from within the culvert structure.

4.3.2.2 Repair Activities

Repair activities would include those described below.

Concrete Repair (Minor and Major). Concrete, including shotcrete or gunite, repair and replacement activities would involve maintenance within developed concrete-lined channels or structures where the concrete lining or structure's form is damaged, cracked, or eroded based on existing constructed or original as-built conditions. Typical minor concrete repair activities include spot repairs to damaged concrete panels (channel lining), barrier walls, or headwall structures. Typical major concrete repair activities include reconstructing the channel lining, barrier walls, or headwall structures because they are missing or damaged enough that they need to be removed and replaced entirely. The terms "repair" and "replacement" are often referenced interchangeably; however, the extent to which the lining or form is damaged or compromised would determine whether the activity is considered a (1) minor or (2) major repair.

Bank Repair. Bank repair activities occur in channels along stream banks. Bank repair involves the repair and stabilization of banks to its as-built or original condition when a weakened, unstable, or failing bank causes or threatens damage to an adjacent property; increases the flood risk; threatens public safety; impacts roads, transportation, or access; generates erosion; increases downstream sediment yields; or impacts riparian habitat and/or other natural resource values. Methods for bank

repair include bank regrading (both involving equipment within or outside the channel); installation of engineered backfilled soils; use of erosion-control fabric; planting of native vegetation; and, where existing riprap is damaged, replacement of riprap. For earthen channels, additional bank repairs outside of authorized maintenance and access/loading/staging/stockpiling areas identified in the FMPs will require further evaluation depending on where bank failures occur in the future.

Structural and/or Debris/Trash-Fence Repair. Structures, such as inlets/outlets and debris/trash fences often need to be repaired if the structure is being undermined, or the debris/trash-fence has been destroyed and is not working properly. Repairs may require clearing debris and vegetation from within or from areas directly adjacent to an outlet/inlet structure and/or debris/trash-fence. In addition, concrete repairs, such as replacement of concrete footings for debris/trash fences or repairs to concrete wing-walls would involve reconstruction to as-built conditions. Outlet/inlet structures often are adjacent to, and discharge to/from channels/ditches, and debris/trash fences are within channel/ditches to catch debris before entering into a pipe or inlet/outlet structure. Direct methods used for structural clearing include excavation (with equipment in the channel/ditch adjacent to the outlet/inlet structure and equipment staged outside the channel/ditch adjacent to the outlet/inlet structure) and Vactor trucks staged outside the channel/ditch, adjacent to the outlet/inlet that vacuum small amounts of sediment or standing water from within the outlet/inlet structure. Repair activities may also involve concrete repairs to the structure itself, or the footings for the debris/trash-fence.

4.3.2.3 Methods

This section generally describes the methods and equipment expected to be used to maintain facilities included as part of the MWMP. These include earthen-bottom and concrete-lined channels/ditches, basins, and outlet/inlet structures.

4.3.2.3.1 Facility Maintenance

Facility maintenance involves excavation (equipment in the channel and/or equipment outside of the channel), dredging, mowing, and hand removal of vegetation, trash, and debris.

Excavation (Equipment In and Outside Facility)

For excavation with equipment in the facility, equipment would enter/exit the maintenance area via an access point selected to minimize direct and indirect, and short-term (e.g., removal of native vegetation) and long-term (e.g., destabilization of channel banks) impacts. A majority of concrete channels have existing paved access ramps that allow equipment to enter/exit directly in/out of the channel. When a ramp is not available, smaller equipment can be attached to a crane or Gradall/excavator to be lowered into the channel or facility from an adjacent bank or staging area,

or a temporary ramp can be created using a portion of the sediment from within the channel or facility that was planned for removal.

Where feasible, equipment is staged outside of the channel, and vegetation, sediment, trash, or debris is removed without placing equipment within the channel. The main feasibility factors include the existence of a disturbed or developed access area along the entire length of the facility that is sufficiently wide enough to allow equipment to reach the full facility, the condition of the material within the channel (e.g., excessively deep and saturated soils may not be suitable for equipment to operate within the channel), and the time needed to complete the work. Where it is feasible, Gradall or excavators would be stationed above the channel bank and would directly reach into the channel or facility to remove accumulated material. Each bucket of material would be loaded into a dump truck to be transported to an approved off-site disposal area.

Dredging

Dredging equipment may include settling/storage tanks, geotubes, a hydraulic dredger, or other similarly functioning equipment. The first steps in the process involve testing and calibration to ensure all equipment is working together. A hydraulic dredger can be placed in the facility, using a floating barge, or on mechanized equipment. Outside of the channel, a settling/storage tank system and geotubes are used to remove all material dredged from the channel to allow clean water to re-enter. Dredging material is dewatered, loaded, and hauled to an approved off-site disposal location.

Hand Removal of Vegetation/Trash/Debris

Where equipment access is limited, site conditions prohibit the use of heavy equipment, or the methodology recommends vegetation trimming or removal, maintenance can be performed manually by crews using hand tools (e.g., mowers, string trimmers, tri-blades, loppers, chainsaws, and shears). As a result, non-mechanical maintenance would be limited to removal of aboveground vegetation, trash and debris, and minor amounts of sediment. Vegetation would be cut at its base or to the high-water mark, leaving the plant roots in the streambed. In this event, the cut vegetation would be collected, hauled out by hand, and disposed in a suitable, pre-approved, off-site location.

4.3.2.3.2 Facility Repair

Bank Grading and Stabilization

During bank repair activities, earth-moving equipment would grade the channel bank to the as-built or to an approved, stable condition. When needed, an evaluation would be conducted to determine bank stability, and necessary stabilization would be implemented in locations where bank or channel erosion is documented during the site assessments, and the condition was deemed by the engineering team to

need additional evaluations. These methods include installation of engineered backfilled soils and erosion-control fabric, and planting of native vegetation. When earthen bank repair is necessary, a geotechnical report would be required and prepared in accordance with Land Development Code (LDC) Section 142.0131 and the City's Technical Guidelines for Geotechnical Reports (City of San Diego 2018a). The earthen bank repair design would incorporate the recommendations of the geotechnical report. Replacement of existing riprap bank stabilization is discussed separately herein, and installation, maintenance, and post-maintenance erosion control measures are discussed in Section 4.3.2.3.3, Associated Activities and BMPs.

Concrete Repair (Minor and Major)

Concrete, including shotcrete or gunite, repair and replacement activities would involve maintenance within developed concrete-lined channels or structures where the concrete lining or structure's form is damaged, cracked, or eroded based on existing constructed or original as-built conditions. The extent to which the lining or form is damaged or compromised would determine whether the concrete would need to be repaired (minor damage) or replaced (major damage).

Minor concrete repair would require the minimal amount of impact necessary to fix the damaged concrete so the facility does not sustain further damage. This type of maintenance may take a few days or several weeks, and is usually completed by City crews. Minor concrete repair may require minimal surficial recontouring of existing soils or imported aggregate to provide a suitable substrate to pour concrete.

Major concrete repair would involve the reconstruction of large sections of the concrete channel lining, barrier walls, or headwall structures that have been severely damaged and need to be reconstructed to its existing constructed or as-built condition. This type of maintenance may take several weeks to a few months, and could require specialized contractors to complete. Major concrete repair may also require the underlying soil to be excavated approximately 1–2 feet to provide a suitable substrate to pour concrete.

Riprap Replacement

Where existing channel riprap has been compromised and needs replacement, as shown on the as-built drawing or current design condition, the equipment used would include an excavator (with compaction wheel and/or bucket), loader, bobcats, dump trucks, and geofabric. The excavator or loader would begin by removing the existing riprap from the replacement location. Any material from the original riprap that could be reused would be set aside, and the rest of the material would be loaded into dump trucks, along with any sediment removed from the bank or channel bottom to prepare the replacement area, and taken to the approved off-site disposal location. A geofabric may

be installed over the entire area prior to the excavator or loader installing the new riprap over the replacement area to the approved as-built condition or original design standard.

4.3.2.3.3 Associated Activities and BMPs

Associated activities and BMPs would be conducted in conjunction with the activities and methods listed previously, as needed. Most activities would require access and loading. Some activities may require stockpiling, but for most, loading may occur directly onto trucks that are driven off site. Temporary flow diversions would be required any time water flows preclude maintenance activities.

Existing and Temporary Access/Loading

Each FMP includes specific access points, routes, and loading areas for each of the facilities included in the MWMP. Access and loading locations were determined by using previous access routes selected to limit disturbance to adjacent properties, minimize impacts to biologically sensitive areas, and provide safe access for maintenance crews. In most cases, access would occur directly from existing ramps, adjacent streets/rights-of-way, or paved areas because of the urban locations of these facilities. In other cases, access would be taken from short dirt or paved driveways from nearby public streets. Access areas are also used as loading points where material is pushed, and equipment scoops and loads it into a dump truck or bin, or onto a stockpile area. Loading areas can be a centralized location or run the length of a facility (typically within the public right-of-way). Access and loading areas through properties not owned by the City require appropriate permissions (see Section 4.4.1.4, Access Permissions and Notifications).

Temporary Staging

Each FMP includes designated staging areas for storage of equipment and materials required for maintenance. Typically, staging areas are needed when equipment and/or materials cannot be easily transported to the project location daily. In these cases, equipment and/or materials could be kept at a designated staging area location overnight or for the duration of maintenance. Where feasible, existing disturbed or developed areas (i.e., street rights-of-way) are used for staging. Depending on the location of the staging area, it may be used for minor equipment maintenance (e.g., re-fueling). BMPs would be installed, inspected, and maintained as identified in the *Water Pollution Control Plan* (WPCP).

Temporary Stockpiling

If necessary, maintenance operations that would remove a large volume of soil or other materials would use temporary stockpile sites. The MWMP includes pre-identified stockpile areas, if one is required for an FMP. Stockpile sites are used to maximize the efficiency of channel

excavation/vegetation removal or where materials need to be dewatered or processed (e.g., trash separation or solarization to kill pest species) prior to transport. BMPs would be installed, inspected, and maintained as identified in the WPCP. Appropriate permits from RWQCB and other regulatory agencies would be acquired for stockpile areas that could limit the duration and use of stockpile areas from a couple of days to several months.

Temporary Flow Diversion

When channel maintenance or other approved activity is planned within a facility carrying active flows, one of two temporary diversion methods may be implemented to prevent these flows from entering the maintenance area during work and impacting downstream water quality.

The first method would be to use sand bags, gravel bag berms, earthen berms, water-filled dam, or another type of check dam to passively isolate and direct flows around the maintenance area. This method would contain flows within the channel limits and would not require the use of equipment.

In facilities where the first method is not practicable because of limited channel area, a high-line pump system may be installed to divert flows around the maintenance area. Using this method, downstream flows would be blocked at a location upstream of the maintenance area using a sand bag or gravel bag berm, earthen berm, water-filled dam, or another type of check dam. A gas-powered pump staged above the channel bank, where feasible, would be used to push flows through a high-line hose system, around the maintenance area, and downstream. An additional temporary berm may be placed at the downstream end of the work area to prevent flows from intruding into the work area from downstream (e.g., where a "backwater effect" is present). Where pumps are temporarily required to divert flows within the channel, appropriate BMPs would be installed and monitoring would be conducted for pollution prevention.

Post-Maintenance Erosion Control

In some cases, erosion control measures may be required to mitigate erosive velocities flowing through areas where vegetation prior to maintenance provided some erosion protection that would be lost (either temporarily or longer) due to maintenance. The H&H analysis identified areas where potentially erosive velocities occur. Where removal of vegetation is unavoidable to reduce flood risk, implementation of post-maintenance erosion control measures may be required. The *Hydrology and Hydraulics Technical Report for the MWMP* (Appendix I of this EIR) identifies potential erosion control measures, including turf reinforced matting, coir mat, riprap, anchored brush wood fence and wooden check dam, chain-link fence or woven wire fence, or rock dam. The *Hydrology and Hydraulics Technical Report* also identifies a process for final selection of measures and site-specific design. It is

anticipated that regulatory permits would be required prior to installation of new measures, and final selection/design would be approved through such permits.

Water Pollution Control Plan

The San Diego RWQCB adopted Order No. R9-2013-0001 (as amended by R9-2015-0001 and R9-2015-0100), National Pollutant Discharge Elimination System Permit and Waste Discharge Requirements for Discharges from the MS4s Draining the Watersheds within the San Diego Region, on May 8, 2013 (MS4 Permit). The MS4 Permit requires the City to implement effective BMPs to reduce discharges of pollutants in storm water from soil-disturbing activities originating from any maintenance or construction sites to the maximum extent practicable and effectively prohibit non-storm-water discharges into the MS4.

In January 2016, the City initiated updates to the 2012 Storm Water Standards Manual to comply with requirements under the MS4 and National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ [as amended by 2010-0014-DWQ and 2012-006-DWQ], National Pollutant Discharge Elimination System Permit No. CAS000002) (Construction General Permit). The updated Storm Water Standards Manual became effective on October 1, 2018 (City of San Diego 2018b). As Section I.C.24 of the Construction General Permit states, "routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility" is not considered an activity covered under the Construction General Permit; therefore, the Storm Water Standards Manual is used as a reference to prepare a WPCP prior to implementation of an FMP or other MWMP maintenance to ensure that water quality is protected to the maximum extent practicable (SWRCB 2012).

4.3.3 FACILITY EVALUATION AND DEVELOPMENT OF PROJECT-AND PROGRAM-LEVEL ANALYSIS

As part of development of the MWMP, facilities and associated maintenance and repair activities were categorized based on two types of analysis: (1) a broad plan-wide or "programmatic-level" evaluation, or (2) a detailed, site-specific or "project-level" evaluation.

The programmatic or plan-wide analysis would identify potential impacts that could result from maintenance and repair activities for all storm water facilities City-wide, but would require subsequent review for certain activities where the significance of an impact, as disclosed in this EIR, is not analyzed at the project or site-specific level. The programmatic or plan-wide analysis would help to address the goal of providing a comprehensive review of potential TSW operation and maintenance activities. It is also consistent with a permitting approach preferred by the regulatory agencies.

However, one of the principal goals of the MWMP is to identify, evaluate, and permit maintenance and repair activities for priority facilities so that these activities can be conducted on an as-needed basis through a streamlined environmental review and approval process. A project-level analysis at these site-specific facilities would support this goal. Therefore, the MWMP includes site-specific evaluations for a group of facilities where specific maintenance and repair activities are necessary to provide flood risk reduction and/or ensure infrastructure longevity.

Appendix A of the MWMP is a compilation of FMPs, maintenance methods, and technical summaries that resulted from that analysis. Appendix A of the MWMP also includes a more detailed description of the facility selection and FMP design process, which is summarized in Section 4.3.3.1, Facility Selection.

4.3.3.1 Facility Selection

The 2016 and 2017 Annual Drainage Channel Field Assessment and Maintenance Prioritization Projects (Rick Engineering 2016, 2017) were used to determine which facilities would be analyzed for project-level and program-level activities. The field assessment ranked 187 channel segments (approximately 50 linear miles) for potential maintenance needs. The 187 channel segments were then reviewed by TSW field crews, engineering teams, and consultants. Following is a summary of the channel facilities selected for evaluation to determine if an FMP should be proposed.

Facilities are divided into three groups: (1) channels and ditches, (2) basins, and (3) structures. Each facility is assigned a facility group name that includes a reference to the drainage area (e.g., Green Valley Creek) and location (e.g., Pomerado). Where a facility has a change in channel substrate (earthen-bottom versus concrete-lined), crosses the Coastal Overlay Zone boundary, and/or crosses a four-lane or larger roadway, the facility is generally divided into segments (although some exceptions are made, especially where substrate is mixed). Each segment is assigned a six-digit facility number that consists of three parts: a watershed number, drainage area number, and facility number.

A total of 69 facility groups (129 segments) were identified for evaluation: channels and ditches (53 facility groups comprising 112 segments), basins (6 facility groups comprising 7 segments), and the remaining 10 facility groups consist of 10 outlet/inlet structures.

Appendix A of the MWMP provides more details regarding the facilities and activities considered for evaluation. In summary, a broad list of potential facilities with varying ranges of information on potential maintenance needs and history were first considered. It was determined that the majority of these facilities (e.g., outlets/inlets, storm drain pipes, BMPs, CIP projects) would not be carried forward for evaluation, primarily based on the following factors:

1. Maintenance and repair is not likely to result in an environmental impact (e.g., facilities within existing developed rights-of-way, such as storm drain pipes).

2. Maintenance and repair is already covered under a separate environmental document (e.g., environmental documents for CIP projects that cover construction and operation and maintenance).
3. Maintenance and repair is not likely to be needed, based on lack of previous maintenance and infrequent occurrence of infrastructure failure, flooding, or other adverse conditions.

4.3.4 PROJECT-LEVEL ANALYSIS (FACILITY MAINTENANCE PLANS)

4.3.4.1 FMP Development

Those facilities that were carried forward for a site-specific evaluation included a subset of the current MMP inventory of channels and basins that represent the highest priorities for maintenance and repair. Once a facility is determined to have the potential need for project-level maintenance, an internal design review is conducted to determine the potential for maintenance to achieve the following:

- Reducing flood risk.
- Avoiding and minimizing adverse hydraulic impacts (e.g., erosive velocities) within the maintenance areas and in the vicinity.

These determinations are made using varied H&H analyses and result in a maintenance recommendation. The results of the H&H analysis indicate if a flood risk reduction benefit can be obtained from implementation of maintenance activities, and what, if any, is the potential added risk for erosion. Additionally, the H&H analysis identifies facilities where potential infrastructure repair needs (e.g., repair of concrete lining) could occur, even if flood risk reduction benefits are not expected from maintenance. The maintenance recommendation is then evaluated through a collaborative process that consists of the following:

- TSW Planning staff and consultants provide an evaluation of regulatory requirements for each facility, taking into account current and past evaluations, permits, and mitigation under CEQA; local ordinances; and other laws and regulations, including the California Fish and Game Code, the California Endangered Species Act, the Porter-Cologne Water Quality Control Act, the California Coastal Act, the federal Endangered Species Act, and the Clean Water Act.
- TSW Engineering staff and consultants provide an evaluation of flood risk, including the consequence of flooding, erosion potential, and water quality conditions.
- TSW crews provide logistical and maintenance methodology details, an evaluation of feasibility, and costs.

This team of experts reviews a set of design considerations for each facility, which typically includes the following:

- No maintenance (i.e., current conveyance capacity and infrastructure stability is adequate).
- Recommended maintenance (i.e., engineering recommendations for improving conveyance capacity).
- Proposed maintenance (i.e., the proposed FMP, which takes into account environmental impacts and potential long-term infrastructure repair needs).

The proposed FMPs are based on the City's facility-specific evaluation of the benefits from maintenance, in terms of flood risk reduction and environmental impacts. Each FMP includes a technical summary, maintenance methodology table, and FMP map. Each technical summary provides a description of the facility in terms of location; characteristics; maintenance history; regulatory history; and current H&H, biological, water quality, and historical conditions. Based on this evaluation, the City identifies a set of project activities and methods. An FMP map is developed to identify the location of these activities. A maintenance method table is provided to detail the methods used by City crews or the contractor to implement routine maintenance and repair (MWMP Appendices A-1 through A-3). In addition, generic FMPs provide details regarding methods to conduct concrete repair and post-maintenance erosion control measures, and can be used in conjunction with a site-specific FMP (MWMP Appendix A-4).

Since the FMPs include activities and methods that require evaluation under CEQA and typically several local, state, and federal regulations, the FMPs are modified to reflect the requirements of each regulatory approval. In addition, each round of maintenance conducted would include a verification process that may result in modifications to the current FMPs (see Section 4.4, Implementation Procedures).

Figure 4-4, Facility Maintenance Plan Development, provides an overview of FMP development and post-FMP implementation, including identification of required mitigation, obtaining required approvals, and reference to an implementation process that is described in Section 4.4, Implementation Procedures.

4.3.4.2 Proposed FMPs

If the results of the H&H analysis indicate a flood risk reduction benefit from implementation of maintenance activities and the avoidance of significant potential for erosion, an FMP would be developed. Additionally, some FMPs were developed to address potential infrastructure repair needs (e.g., repair of concrete lining), even if flood risk reduction benefits are not expected from maintenance.

For the project-level evaluation, the MWMP includes 66 FMPs (covering 113 segments and approximately 18 linear miles) that were developed and include the following:

- 50 channel/ditch groups – 96 segments (Table 4-2 and MWMP Appendix A-1)
- 6 basin groups – 7 segments (Table 4-3 and MWMP Appendix A-2)
- 10 structure groups covering 10 structures (Table 4-4 and MWMP Appendix A-3)

The FMPs for these facilities focus on routine sediment and vegetation maintenance methods and requirements; in addition, separate general FMPs were prepared to specifically address concrete repairs and post-maintenance erosion control installation and maintenance and these can be "added-on" to a specific facility FMP where these additional activities/measures are required (MWMP Appendix A-4).

Within the remaining 16 segments, based on analysis at this time, maintenance is not expected to appreciably reduce flood risk, there is no significant infrastructure at risk, and/or environmental impacts associated with maintenance cannot be mitigated (see MWMP Appendix A-5). Therefore, no project maintenance (i.e., FMP) is proposed based on the project-level analysis conducted to date. These facilities may still be subject to plan-wide activities that would be evaluated under a program-level analysis (e.g., see Section 4.3.5, Program-Level Analysis). This program-level analysis also addresses potential activities within additional facilities that were not evaluated under the MWMP but that are included in the City's current annual inspection (see MWMP Appendix A-6).

Table 4-2 provides a list of all proposed FMPs for channels and ditches (and additional segments evaluated but where no maintenance is currently proposed). The table is organized by watershed and includes information on substrate condition (i.e., concrete-lined versus earthen-bottom) and whether it is in the Coastal Zone. A facility number is included for each segment and corresponds with the order in which they are listed in MWMP Appendices A-1 and A-5. Table 4-3 provides similar information for all proposed FMPs for basins (MWMP Appendix A-2). Table 4-4 provides similar information for all proposed FMPs for structures (i.e., outlets/inlets) (MWMP Appendix A-3).

Table 4-2
Proposed Channel and Ditch FMPs by Watershed, Substrate, and Coastal Zone

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone – Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed	Total Linear Feet[1]
San Dieguito River Watershed								
1-04-030	Green Valley Creek – Pomerado	Pomerado	1	Concrete	—	N/A	1,785	1,785
1-04-033	Green Valley Creek – Pomerado	Pomerado	2	Concrete	—	N/A	2,456	2,456
Los Peñasquitos Watershed								
2-01-120	Peñasquitos Lagoon – Industrial	Industrial	1	Earthen	Yes – CCC	Adjacent	25	285
2-01-122	Peñasquitos Lagoon – Industrial	Industrial	2	Concrete	Yes – City	Partially Adjacent	650	650
2-01-130	Peñasquitos Lagoon – Tripp	Tripp	1	Concrete	Yes – City	N/A	1,835	1,835
2-01-200	Los Peñasquitos Canyon Creek – Black Mountain	Black Mountain	1	Earthen	—	Adjacent	952	952
2-01-210	Los Peñasquitos Canyon Creek – Black Mountain	Black Mountain	2	Earthen	—	Partially Within and Adjacent	959	959
2-03-000	Soledad Canyon Creek – Sorrento	Roselle	1	Earthen	Yes – City	N/A	215	1,554
2-03-002	Soledad Canyon Creek – Sorrento	Roselle	2	Concrete	Yes – City	N/A	2,314	2,314

Table 4-2
Proposed Channel and Ditch FMPs by Watershed, Substrate, and Coastal Zone

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone – Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed	Total Linear Feet[1]
2-03-012	Carroll Canyon Creek – Carroll	Carroll Canyon	1	Earthen and Concrete	—	Partially Within and Adjacent	184	241
2-03-100	Soledad Canyon Creek – Flintkote	Flintkote	1	Concrete	Yes – City	Partially Adjacent	992	992
2-03-150	Soledad Canyon Creek – Dunhill	Dunhill	1	Earthen	Yes – City	N/A	430	430
2-05-140	Chicarita Creek – Via San Marco	Via San Marco	1	Concrete	—	N/A	697	697
Mission Bay Watershed								
3-00-120	Torrey Pines – Torrey	Torrey Pines	1	Earthen	—	N/A	92	1,185
3-02-101	Mission Bay – Mission Bay High School (MBHS)	Pacific Beach (PB)-Olney	1	Earthen	Yes – City	Partially Adjacent	910	910
3-02-103	Mission Bay – MBHS	MBHS	1	Concrete	Yes – City	N/A	1,058	1,058
3-02-130	Mission Bay – Mission Bay Drive	Mission Bay Drive	1	Earthen	Yes – CCC	N/A	1,085	1,085
3-03-901	Miramar – Engineer	Engineer	1	Concrete	—	N/A	1,220	1,220
3-04-055	Tecolote Creek – Chateau	Chateau	1	Concrete	—	N/A	4,882	4,882

Table 4-2
Proposed Channel and Ditch FMPs by Watershed, Substrate, and Coastal Zone

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone – Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed	Total Linear Feet[1]
3-04-250	Tecolote Creek – Chateau	Chateau	2	Concrete	—	N/A	1,057	1,057
3-04-160	Tecolote Creek – Genesee	Genesee	1	Earthen	—	Partially Adjacent	767	767
San Diego River Watershed								
4-01-103	San Diego River – Nimitz	Nimitz	1	Earthen	—	N/A	116	116
4-01-105	San Diego River – Nimitz	Nimitz	2	Concrete	—	N/A	291	291
4-01-107	San Diego River – Nimitz	Nimitz	3	Earthen	—	N/A	476	476
4-01-120	San Diego River – Valeta	Valeta	1	Concrete	Yes – City	Adjacent	161	161
4-03-101	San Diego River – Camino del Rio	Camino del Arroyo	1	Concrete	—	N/A	642	642
4-03-103	San Diego River – Camino del Rio	Camino del Rio	1	Concrete	—	N/A	1,019	1,019
4-04-000	Murphy Canyon Creek – Stadium	Stadium	1	Earthen	—	Partially Adjacent	1,661	1,661
4-04-002	Murphy Canyon Creek – Stadium	Stadium	2	Concrete	—	N/A	207	207
4-04-006	Murphy Canyon Creek – Stadium	Murphy Canyon	1	Concrete	—	N/A	532	532

Table 4-2
Proposed Channel and Ditch FMPs by Watershed, Substrate, and Coastal Zone

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone – Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed	Total Linear Feet[1]
4-07-002	Alvarado Canyon Creek – Mission Gorge	Mission Gorge	1	Earthen and Concrete	—	N/A	718	864
4-07-004	Alvarado Canyon Creek – Mission Gorge	Mission Gorge	2	Concrete	—	N/A	521	521
4-07-009	Alvarado Canyon Creek – Mission Gorge	Mission Gorge	3	Earthen and Concrete	—	N/A	700	862
4-07-011	Alvarado Canyon Creek – Mission Gorge	Mission Gorge	4	Concrete	—	N/A	515	1,261
4-07-021	Alvarado Canyon Creek – Alvarado	Alvarado	1	Earthen and Concrete	—	Partially Within and Adjacent	1,102	1,102
4-07-023	Alvarado Canyon Creek – Alvarado	Alvarado	2	Concrete	—	Partially Within and Adjacent	1,192	1,192
4-07-250	Alvarado Canyon Creek – Alvarado	Alvarado	3	Concrete	—	Partially Adjacent	517	517
4-07-901	Murray Reservoir – Cowles Mountain	Cowles Mountain	2	Concrete	—	N/A	697	697

Table 4-2
Proposed Channel and Ditch FMPs by Watershed, Substrate, and Coastal Zone

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone – Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed	Total Linear Feet[1]
4-07-911	Murray Reservoir – Cowles Mountain	Cowles Mountain	1	Concrete	—	N/A	2,195	2,195
4-08-008	Norfolk Canyon Creek – Fairmount	Fairmount	1	Concrete	—	Partially Adjacent	248	248
4-08-011	Norfolk Canyon Creek – Fairmount	Fairmount	2	Concrete	—	Partially Within and Adjacent	575	575
4-08-014	Norfolk Canyon Creek – Fairmount	Fairmount	3	Earthen	—	Partially Within and Adjacent	29	820
4-08-017	Norfolk Canyon Creek – Fairmount	Fairmount	4	Concrete	—	Partially Within and Adjacent	1,250	1,250
4-08-105	Norfolk Canyon Creek – Fairmount	Baja	1	Earthen and Concrete	—	Partially Adjacent	1,369	1,369
Pueblo San Diego Watershed								
5-02-151	Washington Canyon Creek – Washington	Washington	1	Earthen	—	N/A	217	217
5-02-153	Washington Canyon Creek – Washington	Washington	2	Concrete	—	N/A	2,210	2,210

Table 4-2
Proposed Channel and Ditch FMPs by Watershed, Substrate, and Coastal Zone

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone – Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed	Total Linear Feet[1]
5-02-162	Mission Hill Canyon Creek – Titus	Titus	1	Earthen	—	Partially Within and Adjacent	39	207
5-03-011	Powerhouse Canyon Creek – Pershing	Pershing	1	Concrete	—	N/A	1,598	1,598
5-03-100	Powerhouse Canyon Creek – Pershing	Pershing	2	Concrete	—	N/A	437	437
5-03-901	San Diego Bay – 28th St	28th St	1	Earthen	—	N/A	67	67
5-04-004	Chollas Creek – National	National	1	Earthen and Concrete	Yes – City	N/A	816	1,976
5-04-006	Chollas Creek – National	National	1	Concrete	—	N/A	2,743	2,743
5-04-044	Chollas Creek – Rolando	Cartagena	1	Concrete	—	N/A	1,225	1,225
5-04-046	Chollas Creek – Rolando	Rolando	1	Concrete	—	N/A	374	374
5-04-048	Chollas Creek – Rolando	Rolando	2	Earthen	—	N/A	820	820
5-04-101	Chollas Creek– Martin	Martin	1	Earthen and Concrete	—	N/A	120	1,128

Table 4-2
Proposed Channel and Ditch FMPs by Watershed, Substrate, and Coastal Zone

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone – Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed	Total Linear Feet[1]
5-04-163	Chollas Creek – J St	J St	1	Earthen	—	N/A	15	404
5-04-220	Auburn Creek – Home	Home	1	Earthen	—	N/A	415	415
5-04-224	Auburn Creek – Home	Home	2	Earthen	—	N/A	160	920
5-04-227	Auburn Creek – Home	Home	3	Concrete	—	Partially Adjacent	369	369
5-04-231	Auburn Creek – Home	Home	5	Earthen and Concrete	—	Partially Adjacent	275	275
5-04-239	Auburn Creek – Wightman	Wightman	1	Earthen and Concrete	—	N/A	297	297
5-04-241	Auburn Creek – Wightman	Wightman	2	Earthen and Concrete	—	N/A	645	645
5-04-260	Chollas Creek – Megan	Megan	1	Concrete	—	Adjacent	849	849
5-04-262	Chollas Creek – Megan	Megan	2	Earthen	—	N/A	62	464
5-04-280	Chollas Creek – 54th St.	54th St	1	Concrete	—	N/A	264	264
5-05-006	South Chollas Creek – Southcrest	Alpha	1	Earthen and Concrete	—	N/A	1,007	5,024
5-05-008	South Chollas Creek – Southcrest	Ocean View	1	Earthen and Concrete	—	N/A	1,010	2,223

Table 4-2
Proposed Channel and Ditch FMPs by Watershed, Substrate, and Coastal Zone

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone – Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed	Total Linear Feet[1]
5-05-021	South Chollas Creek – Euclid	Euclid	2	Concrete	—	N/A	1,045	1,045
5-05-035	South Chollas Creek – Federal	Federal	1	Earthen and Concrete	—	Partially Adjacent	61	614
5-05-037	South Chollas Creek – Federal	Federal	2	Concrete	—	N/A	1,329	1,329
5-05-205	South Chollas Creek Encanto Branch – Castana	Castana	1	Earthen and Concrete	—	N/A	66	260
5-05-306	South Chollas Creek Encanto Branch – Imperial	Imperial	2	Concrete	—	N/A	1,074	1,074
5-05-603	South Chollas Creek Encanto Branch – Jamacha	Jamacha	1	Earthen	—	N/A	703	5,141
5-06-005	Paleta Creek – Cottonwood	Cottonwood	1	Concrete	—	N/A	501	500
5-06-008	Paleta Creek – Cottonwood	Cottonwood	2	Concrete	—	N/A	1,899	1,899
5-06-020	Paleta Creek – Solola	Solola	1	Concrete	—	N/A	2,625	2,625
5-06-023	Paleta Creek – Solola	Solola	2	Concrete	—	N/A	1,907	1,907

Table 4-2
Proposed Channel and Ditch FMPs by Watershed, Substrate, and Coastal Zone

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone – Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed	Total Linear Feet[1]
Sweetwater Watershed								
5-11-003	Sweetwater River – Parkside	Parkside	1	Concrete	—	N/A	1,197	1,197
Otay Watershed								
5-22-008	Nestor Creek – Nestor	Cedar	1	Earthen	Yes – City	N/A	65	427
5-22-010	Nestor Creek – Nestor	Cedar	2	Concrete	Yes – City	N/A	560	560
5-22-013	Nestor Creek – Nestor	Dahlia	1	Concrete	—	N/A	622	622
5-22-016	Nestor Creek – Nestor	Cerissa	1	Earthen	—	N/A	1,467	2,041
5-22-023	Nestor Creek – Nestor	Grove	1	Earthen and Concrete	—	N/A	1,039	1,039
5-22-028	Nestor Creek – Nestor	30th St	1	Earthen and Concrete	—	N/A	1,183	1,183
5-22-110	Nestor Creek – Outer	Outer	1	Earthen	—	N/A	385	385
5-22-112	Nestor Creek – Outer	Outer	2	Concrete	—	N/A	176	176
Tijuana River Watershed								
6-01-020	Tijuana River – Pilot & Smugglers	Pilot Channel	1	Earthen	Yes – City	Within	5,550	5,550

Table 4-2
Proposed Channel and Ditch FMPs by Watershed, Substrate, and Coastal Zone

Facility Number	Facility Group Name	Segment Name	Segment Number	Substrate	Coastal Zone – Permit Authority	Multi-Habitat Planning Area	Linear Feet of Maintenance Proposed	Total Linear Feet[1]
6-01-100	Tijuana River – Pilot & Smugglers	Smuggler's Gulch	1	Earthen	Yes – City	Within	3,026	3,875
6-02-118	Tijuana River – Tocayo	Tocayo	2	Concrete	Yes – City	N/A	2,498	2,498
6-03-135	Tijuana River – Smythe	Via Encantadoras	1	Earthen	Yes – City	N/A	120	120
6-03-138	Tijuana River – Smythe	Via Encantadoras	2	Concrete	—	N/A	955	955
6-03-143	Tijuana River – Smythe	Via Encantadoras	3	Earthen and Concrete	—	N/A	886	886
6-03-147	Tijuana River – Smythe	Smythe	1	Earthen	—	N/A	1,355	1,355
6-03-150	Tijuana River – Smythe	Via de la Bandola	1	Concrete	—	N/A	716	716
6-06-011	Tijuana River – La Media	La Media	1	Earthen	—	Adjacent	5	223

FMP = Facility Maintenance Plan; City = City of San Diego; CCC = California Coastal Commission; N/A = not applicable

[1] Linear feet is approximate based on measurements made in GIS.

Table 4-3
Basin Facility Maintenance Plans by Watershed

Facility Number	Watershed	Facility Group Name	Segment Name	Segment Number	Coastal Zone – Permit Authority	Multi-Habitat Planning Area	Acreage/ Linear Feet of Maintenance Proposed[1]	Total Linear Feet[1]
1-04-200	San Dieguito River	Green Valley Creek – Paseo del Verano	Paseo del Verano	1	—	N/A	0.29 acres	203
2-01-900	Los Peñasquitos	Los Peñasquitos Canyon Creek – 5–805 Basin	5-805 Fwys	1	Yes – CCC	Partially Within and Adjacent	1.44 acres	744
3-00-150	Mission Bay	Alta La Jolla – Vickie	Vickie	1	—	Partially Adjacent	1.13 acres	234
5-02-140	Pueblo San Diego	Maple Canyon Creek – Maple	Maple	1	—	N/A	0.12 acres	90
6-04-251	Tijuana River	Spring Canyon Creek – Cactus	Cactus	1	—	N/A	229 linear feet	229
6-04-253			Cactus	2	—	N/A	923 linear feet	923
6-05-110		Tijuana River – Siempre Viva	Siempre Viva	1	—	N/A	2,711 linear feet	2,711

Notes: All basins are earthen-bottom except Paseo del Verano.
CCC = California Coastal Commission; N/A = not applicable
[1] Linear feet is approximate based on measurements made in GIS.

Table 4-4
Proposed Structure Facility Maintenance Plan by Watershed

IAMFLOC	Watershed	Facility Group Name	Coastal Zone – Permit Authority	Multi-Habitat Planning Area
HW04220	Los Peñasquitos	10405 Sorrento Valley Road	Yes – City	N/A
OT03537	San Diego River	1331 Washington	—	N/A
IN10399		1277 Camino Del Rio South	—	Partially Adjacent
OT05573		5505 Friars and Colusa	—	Partially Within and Adjacent
OT03321		1660 Hotel Circle North	—	N/A
HW02440		901 Hotel Circle South	—	Partially Within and Adjacent
HW02437		2087 Hotel Circle South	—	Partially Within and Adjacent
OT03694	Pueblo San Diego	3644 Roselawn	—	N/A
HW04013		4202 J Street	—	N/A
OT054671		1206 Goodyear	—	N/A

IAMFLOC = Infrastructure Asset Management Functional Location; City = City of San Diego; N/A = not applicable

4.3.5 PROGRAM-LEVEL ANALYSIS (OTHER PLAN-WIDE ACTIVITIES)

The program-level analysis focuses on the potential that activities could occur in all storm water facilities City-wide. The following sections discuss these activities:

- Section 4.3.5.1, Minor Maintenance or Repair – minor maintenance activities
- Section 4.3.5.2, Changed Conditions for New or Substantially Amended FMPs – routine maintenance and repair activities not identified in an FMP that are required due to changed conditions or new information and would require an amendment to the MWMP or permits
- Section 4.3.5.3, Compensatory Mitigation Sites
- Section 4.3.5.4, Emergency Maintenance or Repair

FMPs have been prepared for most anticipated maintenance and repair locations. These FMPs provide detailed information regarding planned activities and methods so that a project-level review can be conducted in accordance with CEQA and the City's Site Development Permit (SDP) and Coastal Development Permit (CDP) requirements. However, given the unpredictable nature of flooding, erosion, and drainage infrastructure failures, maintenance and repair activities and methods may be required in areas not identified in the FMPs. Figure 4-5, Operations and Maintenance Plan Work Flow, identifies the

areas where most of the facilities that may be subject to these additional plan-wide activities occur. However, these activities may occur anywhere within the City limits.

4.3.5.1 Minor Maintenance or Repair

Minor maintenance or repair activities may occur throughout the City but would not affect environmentally sensitive lands (ESL) as defined by the City's LDC and as regulated by the City, or result in a regulated impact to resources under the jurisdiction of USACE, CDFW, RWQCB, or CCC. These activities may include maintenance of facilities such as storm water pipes, inlet/outlet structures, ditches, channels, brow ditches, basins, and permanent BMPs. These facilities are most often within the public right-of-way or developed areas. A variety of other activities where the methodologies are less-invasive may also be considered minor maintenance, including, trash and debris removal by hand, homeless encampment removal, graffiti removal, vegetation management, non-mechanized sediment removal, erosion control maintenance, and concrete repair (minor damage). However, all minor maintenance must meet the following criteria:

- No ESL impact (including wetland vegetation and covered species habitat) or otherwise exempt from an SDP
- Typically, no regulated impacts to jurisdictional resources (discharge of dredge/fill to waters of the United States/state or significant alteration of lake or streambed)
- Development activities do not impact coastal resources or are otherwise exempt from a CDP

4.3.5.2 Changed Conditions for New or Substantially Amended FMPs

New FMPs may be prepared for facilities where no current FMP is included in Appendix A of the MWMP. FMP preparation is expected to be similar to the methodology outlined in the MWMP, including H&H analysis to determine flood risk reduction and erosion potential, followed by collaborative FMP development considering biological, water quality, and other potential environmental impacts.

Similarly, existing FMPs may require modifications to incorporate additional activities such as additional channel segments, bank repair, relocated staging or stockpile areas, or modified methods. Where these modifications to the FMP may have the potential to result in new or substantially more severe environmental impacts than what was anticipated, these FMPs would be considered substantially amended. Section 4.4.2.1 provides further detail on the environmental review that would be required for each new FMP, including those substantially amended.

4.3.5.3 Compensatory Mitigation Sites

Compensatory mitigation sites are discussed in Section 4.4.3, Compensatory Mitigation, and include those previously approved, those pending approvals, and potential future sites. Approvals of compensatory mitigation sites may be completed through amendments to the MWMP provided that the CEQA analysis for the MWMP adequately identifies potential significant impacts and mitigation, or the proposed mitigation is exempt from CEQA review.

4.3.5.4 Emergency Maintenance or Repair

An emergency is defined as a sudden unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. Emergency maintenance activities may occur at any time throughout the City and may or may not affect ESL or result in a regulated impact to resources under the jurisdiction of USACE, CDFW, RWQCB, or CCC, depending on the location and nature of the emergency. Emergency maintenance is an activity that may be conducted any time the conditions within a particular facility pose a threat to life or property. Emergency maintenance would be conducted once per season (not extending year to year, although limited exceptions may occur) and would be limited to the minimum activity necessary to alleviate the threat to life or property. Activities may include the removal of sediment, vegetation, debris, or other material from a facility to reduce or mitigate the immediate flood risk to life and property.

When emergency maintenance involves activities within wetlands and/or waters of the United States/state, appropriate notifications to regulatory agencies, according to the current procedures published by each agency, would be provided by TSW staff or their consultants. Email notifications are typically sent to agencies before the emergency activity occurs, and additional emergency notifications are sent to agencies using their notification procedures shortly after the emergency maintenance begins. The City has the option of taking unilateral action in proceeding with emergency maintenance or repair, but is encouraged to wait as long as possible to allow the agencies to provide input on the proposed emergency activities. If the maintenance start time can be delayed for more than 2 weeks, the imminent threat of impending loss may have diminished in magnitude and immediacy, and generally do not meet the definition of an "emergency." Procedures outlined in this MWMP and typical for an FMP would be followed to the extent practicable (e.g., identifying the limits of work, environmental awareness training, biological monitoring, water quality BMP installation and inspection, archaeological/Native American monitoring).

Following maintenance, a post-maintenance report would be prepared to document the results of emergency maintenance activities and to determine the need for compensatory mitigation. After-the-fact permits and/or required documentation for the emergency may be required. The after-the-fact permit

could be processed through the City via a Process One SCR if the facility/activity is covered at the project-level and consistent with the MWMP EIR, SDP, and CDP; or a Process Two SCR when the facility/activity is covered at the programmatic level and consistent with the MWMP EIR, SDP, and CDP. If the activity and/or facility is not covered by the MWMP EIR, SDP, or CDP, a subsequent environmental review and/or new or amended permits could be processed in accordance with LDC Section(s) 126.0113, 126.0504, and 126.0707. The after-the-fact permitting would therefore follow MWMP Table 7, DSD Subsequent MWMP Process Flow Chart, in MWMP Section 4, Implementation Procedures (Appendix A of this EIR), and Table 2-2 in Chapter 2, Introduction, of this EIR.

4.4 IMPLEMENTATION PROCEDURES

Maintenance needs are identified through an annual inspection and prioritization process. The results of these inspections are reviewed against existing FMPs to determine if required maintenance can be performed consistent with existing FMPs or if a program-level analysis is required. Environmental Protocols and mitigation measures are evaluated along with access permissions and required regulatory approvals and public outreach. If all required regulatory approvals and access permissions are obtained, maintenance is conducted in accordance with required implementation of mitigation measures. This section provides more details on procedures implemented prior to, during, and following maintenance. Refer to Figure 4-5 for an outline of operation and maintenance procedures.

4.4.1 PRE-MAINTENANCE PLANNING

4.4.1.1 Inspections and Prioritization

Routine maintenance and repair activities for MWMP program and project-level channels and ditches, basins, and structures are prioritized through a maintenance benefit analysis that includes annual inspections, public input, and a desktop H&H analysis. The following is a description of the City's proposed inspection and prioritization process.

Step 1: Annual Inspections

Typically, starting at the end of the rainy season (in April), the City and consultants visually inspect storm water facilities to determine the probability and consequence of flooding (see Table 4-5). The probability of flooding is determined from assessing factors such as the substrate's Manning's "n" value (roughness coefficient – channels and ditches only), structural damage and overall condition; as well as environmental factors such as erosion, ponded water and percentage of vegetation, trash and debris, and sediment deposition. Facilities with a large amount of vegetation, trash and debris, sediment deposition, ponded water, structural damage, and erosion have a higher probability of flooding due to the decrease in the facility's conveyance capacity or level of service. Although, native wetland vegetation

and sediment filter many pollutants in our waterways, the removal of invasive vegetation, trash and debris, pollutant saturated sediment, and ponded water may benefit water quality. These secondary water quality benefits considered during the annual inspections are depicted in Table 4-5. Out of a total inspection score of 80 points, water quality factors account for a possible 14 points for channels, 20 points for basins, and 28 points for structures.

The consequence of flooding is determined from the potential impact of flooding to the surrounding land uses and infrastructure. Factors including the surrounding buildings and land uses (roadway, open space), housing density, and available freeboard are assessed during the annual inspection. Facilities where flooding would impact high density areas, homes, major roadways, and critical buildings such as police stations, fire stations and hospitals would have a higher consequence of flooding than adjacent land uses such as parking lots, temporary uses, or open space.

Table 4-5
Inspection Score Factors

Channels	Basins	Structures	Points
Probability of Flooding Substrate type Erosion Trash/debris* Vegetation* Sediment deposition* Standing Water/Ponding* Noticeable Odors* Algae* Transients/ Encampments* Structural Issues Culvert conditions Flooding potential	**Probability of Flooding** Basin type Erosion Trash/debris* Vegetation* Sediment deposition* Standing Water/Ponding* Noticeable Odors* Algae* Transients/ Encampments* Structural Issues Outlet condition Flooding potential	**Probability of Flooding** Clogging Percentage Erosion Trash/debris* Sediment deposition* Structural Issues Flooding potential	40 pts
Consequence of Flooding Surrounding Infrastructure/Land Uses Freeboard Culvert/Channel Overflow Infrastructure Damage	**Consequence of Flooding** Surrounding Infrastructure/Land Uses Freeboard Culvert/Channel Overflow Infrastructure Damage	**Consequence of Flooding** Surrounding Infrastructure/Land Uses Freeboard Culvert/Channel Overflow Infrastructure Damage	40 pts

* Potential water quality benefit from removal.

Step 2: Public Input

While the annual inspections are being conducted, City staff will seek public input by reviewing service notification requests received during the year and distributing an online public survey. The Annual

Inspections score (80 points) and Public Input score (10 points) will be added together to then rank an initial priority list. Based on this initial screening, only the channel and ditch facilities that pose the greatest flood risk based on the annual inspection and public input will be further analyzed. For basins and structures, conveyance capacity can be determined from the inspection process alone.

Step 3: H&H Analysis and Verification for Channel and Ditch Facilities

Further analysis through H&H modeling will then be conducted on the channels and ditches identified in Step 2 to determine the existing and maintained conveyance capacities (e.g., level of service). Since many channel and ditch facilities in the MWMP already have baseline H&H modeling completed, City staff will verify, from the inspection process, whether conditions are the same or have substantially changed. If the current conditions have substantially changed or if a facility does not have baseline H&H modeling data, a desktop H&H analysis will be conducted. H&H modeling is not performed for the basin or structure facilities since conveyance capacity can be determined from the inspection process. The top channel and ditch facilities are then reprioritized based on the probability of flooding (40 points), the consequence of flooding (40 points), public input (10 points), and maintenance capacity benefits determined from the H&H modeling (10 points).

Step 4: Final Prioritization List

The list of reprioritized facilities is then shared with the Environment Committee of the San Diego City Council. The final prioritization list is then published by the City and used as a tool to budget, and plan final engineering and environmental compliance, including identification of compensatory wetlands mitigation. The Environment Committee of the San Diego City Council meeting offers another forum for the public to provide input during this process.

This inspection and prioritization process may be modified to adaptively manage the City's needs based on public input; more efficient and comprehensive methodologies gained from the annual inspections; budgetary constraints; City priorities; and operational practices. Such modifications will be presented as part of the annual winter storm preparation briefing presented to the Environment Committee of the San Diego City Council.

4.4.1.2 Maintenance Design Verification

Based on the results of the annual inspections and prioritization, the City will determine if maintenance or repair can be conducted as minor maintenance, the prioritized facility already has a project-level FMP to conduct proposed maintenance and repair activities, or there is no FMP and one will need to be prepared to conduct work.

If any maintenance or repair can be done through minor maintenance (e.g., hand removal of trash and debris), TSW will conduct the work as needed.

If the prioritized facility has an FMP, TSW will prepare the site-specific maintenance plan and verify that the proposed work is in "substantial conformance" with the approved FMP and environmental analysis disclosed in the certified EIR. Review of existing FMPs will include verification of H&H conditions; project activity footprints (i.e., maintenance, access, loading, staging, and/or stockpiling areas); current biological, water quality, and historic conditions; and regulatory approvals. This verification may be documented in a checklist or summary to be submitted to the agencies for subsequent authorizations/notifications (i.e., Substantial Conformance Review). If regulatory permits adequately address all proposed project activities, the proposed maintenance will be implemented according to required procedures and permit authorizations. If regulatory permits do not adequately address all proposed project activities, an amended FMP will be prepared.

If a new FMP or amended FMP is required for a prioritized facility, one will be prepared for that facility. FMP development is discussed in Section 3.2 of the MWMP and Section 4.3.4.1, FMP Development, herein. If the new or amended FMP to be included in the MWMP requires a modification or an amendment to a regulatory permit, those modifications will be processed accordingly. Regulatory approvals will be obtained prior to implementing any of the proposed maintenance and repair activities for the new or amended FMP.

4.4.1.3 Environmental Protocols

The following Environmental Protocols (EPs) have been identified as part of the proposed MWMP to specifically avoid, minimize, and/or reduce potential environmental impacts. Many of these have been previously described, but are called out below as they relate to each environmental resource area. EPs may include compliance with the San Diego Municipal Code (SDMC) or may have been developed as part of the environmental analysis and generally are applicable to all maintenance and repair activities, unless specific applicability is discussed in the protocol. The full text of the EPs are included as Appendix C to the MWMP and will be attached to the Resolution approving the Site Development Permit/Coastal Development Permit. These EPs may also be incorporated into future regulatory permits.

Biology and Land Use

Biological and land use protocols provide compliance with the Multiple Species Conservation Program (MSCP) and include avoidance of direct disturbance of active nests during the bird breeding season; avoidance of indirect disturbance of active bird breeding behavior during the breeding season (e.g., noise attenuation and buffers); limitations on the use of lighting; environmental awareness training; demarcation of work limits to protect adjacent resources; and biological

monitoring of vegetation removal, including specific requirements in areas supporting invasive plants species and/or shot-hole borer beetle.

Geologic Conditions

A protocol is included that requires preparation of a geotechnical report for maintenance and repair activities that involve earthen bank repair, in compliance with the LDC Section 142.0131.

Health and Safety/Hazards

A set of three protocols, including the Hazardous Material Contingency Plan prepared for the MWMP, provide specifications for where hazardous materials monitoring is required and the methods for monitoring; procedures for the identification and handling of soil or groundwater contaminants encountered during maintenance, including field screening and monitoring procedures; procedures for managing contaminated or potentially contaminated soil stockpiles; waste characterization sampling procedures; and a description of potential soil recycling and reuse or disposal options.

Hydrology

As described in Section 4.3.2.3.3, Associated Activities and BMPs, H&H analysis of proposed maintenance indicates that some locations may experience an increased potential for erosive velocities or other destabilizing effects. For these situations, the MWMP includes several post-maintenance erosion control measures (installation and maintenance methods are included in Appendix A-4) that will be used based on the design selection process outlined in the *Hydrology and Hydraulic Technical Report* (Appendix I of this EIR). Following the design selection process and any regulatory permit requirements, City crews or contractor(s) would install one or more of the measures, and the City would conduct monitoring.

Paleontological Resources

Paleontological resource protection includes monitoring by a qualified paleontologist in areas with a potential for encountering fossil resources during maintenance activities. Procedures for handling recovered fossil resources would be followed in accordance with the LDC Section 142.0151.

Solid Waste

A set of eight protocols, including the *Waste Management Plan* prepared for the MWMP, provide evaluation and methods to implement separation of recyclable materials, including tires, vegetation, and concrete debris, and diversion of these materials from the landfill.

Water Quality

Water quality protection measures are described in a WPCP, a working reference document that is provided as Appendix B to the MWMP. Water pollution control activities are outlined in Section 4.3.2.3.3, Associated Activities and BMPs. TSW and Development Services Department staff would determine if the WPCP, together with the FMP, provide sufficient detail to ensure adequate installation and maintenance of BMPs. This is expected to be the case for routine maintenance activities of a short duration (e.g., less than 1 month). On a case-by-case basis for larger maintenance efforts, project-specific WPCPs may be developed to better ensure that appropriate BMPs are installed and maintained during each round of maintenance.

4.4.1.4 Access Permissions and Notifications

City staff or their consultants would prepare and coordinate necessary right-of-entry permits or similar authorizations to conduct maintenance on lands not owned by the City but where the City may have an easement. An easement verification process would be completed using existing as-built drawings, assessor's maps, and if necessary, title reports. Appropriate notifications would be provided in accordance with easement requirements. Generally, where the City is not the underlying property owner and no drainage easements exist for conducting maintenance, the City would not conduct maintenance. Additionally, the City does not conduct maintenance within flowage easements. However, in some cases a right-of-entry would be requested.

Notifications would be provided in accordance with right-of-entry permit requirements to property owners of parcels within or adjoining proposed activity areas.

4.4.1.5 Public Outreach and Information

An annual presentation to the Environment Committee of the San Diego City Council would provide an overview of maintenance activities conducted during the past year and expected future maintenance. TSW would also offer to present this information at the Community Planners Committee.

The City's website would provide ongoing updates regarding the following:

- Preparation and finalization of annual prioritization
- Proposed FMPs (including associated technical reports and permits)
- An annual report of MWMP activities

4.4.2 RESOURCE AGENCY PERMITS AND AUTHORIZATIONS

The following is a general overview of regulatory requirements and permits expected to be issued by various agencies authorizing some or all of the FMP and related activities. These descriptions and details will be revised and amended, as necessary, during development and approval of the MWMP and subsequent FMPs.

4.4.2.1 City of San Diego

As lead agency, the City's Planning Department has the authority to implement CEQA and is responsible for the environmental review and analysis of discretionary public projects. Environmental review will be conducted in accordance with the City's *California Environmental Quality Act Significance Determination Thresholds* (City of San Diego 2016). This project-level EIR analyzes the project's potential environmental impacts and includes appropriate site-specific measures and a mitigation framework for the program.

The activities described in the MWMP are subject to the SDMC, which contain administrative, criminal and regulatory ordinances (or laws) for the City of San Diego. The SDMC is organized by chapters, articles, divisions, and sections.

Specifically, Chapters 11 through 14 of the SDMC are referred to as the "Land Development Code." These chapters contain the City's planning, zoning, subdivision, and building regulations. The LDC sets forth the procedures used in the application of land use regulations, the types of review of development, and the regulations that apply to the use and development of land in the City. The LDC contains implementing regulations for the City's *General Plan*, Community Plans, and Local Coastal Program (LCP).

The LDC includes ESL and coastal development regulations that require issuance of an SDP for projects located within ESL and/or a CDP for projects located within the City's jurisdictional Coastal Overlay Zone that may otherwise not be exempt.

The City has an approved LCP within its jurisdiction that meets the requirements of the California Coastal Act and implements the California Coastal Act's provisions and policies at the local level. The City's LCP is divided into separate geographic segments, each with separate land use plans. Within segments (or portions of segments) governed by adopted land use plans certified by the CCC, the City can issue CDPs authorizing MWMP activities that are in compliance with the LCP. In addition, the City must make certain findings in accordance with LDC Sections 126.0708(a) and 126.0708(b). A CDP issued by the City may be appealed to the CCC if located within an Appealable Area of the Coastal Zone or within 100 feet of CCC wetlands (California Coastal Act Section 30603[a][1]). Activities

located within the CCC's permit jurisdiction or in the Deferred Certification Area shown on Map No. C-730.1 require a CDP from the CCC per the LDC.

In addition, the MWMP will be reviewed for compliance with all applicable City ordinances and adopted regulations and guidelines, including the following:

- SDMC
- LDC and Land Development Manual, including the following:
    - ESL Regulations
    - Coastal Development Permit Procedures
    - Historical Resources Regulations and Guidelines
    - Biology Guidelines
    - Storm Water Standards Manual
- *General Plan*
- Community, subarea, land use, park/preserve, and other City area plans
- *MSCP Subarea Plan* and Implementing Agreement
- *Climate Action Plan*
- MS4 National Pollutant Discharge Elimination System Permit

The Public Facilities, Services and Safety Element of the *General Plan* (City of San Diego, 2015a) addresses specific goals and policies related to storm water infrastructure that can be achieved through the implementation of the MMWP. The goals related to storm water include the following (City of San Diego 2015a):

- Protection of beneficial water resources through pollution prevention and interception efforts.
- A storm water conveyance system that effectively reduces pollutants in urban runoff and storm water to the maximum extent practicable.

The General Plan policies applicable to the MWMP, include Public Facilities, Services and Safety Element Policies PF-G.2, PF-G.3, PF-G.4, PF-G.5, and PF-G.6; and Conservation Element policies CE-B.1.c, CE-B.2, CE-B.4, CE-C.1, CE-C.6, CE-G.1, CE-G.4, CE-G.5, CE-H.1, and CE-H.8 that relate to the preservation of open space, development within ESL, water quality protection measures and preserving biological diversity, specifically wetlands.

Projects that involve earthen bank repair activities as described in the MWMP are also subject to compliance with LDC Section 142.0131. When earthen bank repair is necessary for a specific project, a geotechnical report would be required and prepared in accordance with the City's Technical Guidelines for Geotechnical Reports (City of San Diego 2018a), and the earthen bank repair design would incorporate the recommendations of the geotechnical report. The geotechnical report would also be submitted for review during the subsequent review process described below.

4.4.2.1.1 Subsequent Reviews and Approvals

The SDP and CDP would allow for implementation of the MWMP using the subsequent review process outlined in MWMP Table 7, DSD Subsequent MWMP Process Flow Chart. Subsequent activities outside the coastal overlay zone that are analyzed at the project level would be authorized through SCR Process One. Subsequent review of MWMP activities located inside the coastal overlay zone that are analyzed at the project level would be authorized through SCR Process Two to provide an opportunity for public appeal of the decision to the City Council and CCC. The SCR approval would be in effect for the duration of the work described in each submittal and would not expire for the activity authorized. TSW will make every effort to complete the maintenance or repair activity within the duration identified; however, environmental limitations such as bird breeding season and rainy season could delay completion of the maintenance. If site conditions (e.g., sediment deposition, vegetation/habitat) do not substantially change from the conditions that were described in the SCR, work may continue under the same authorization. However, if site conditions do substantially change (additional sediment deposition, new vegetation growth/habitat to be mitigated) from the time work stopped and work is to begin again, a new SCR will be submitted for re-authorization.

For activities that do not conform with approved FMPs (e.g., changed conditions leading to new or amended FMPs, compensatory mitigation sites, or emergency maintenance) where the environmental impacts of those activities are sufficiently addressed by the program-level analysis in the MWMP EIR, an SCR Process Two would be required. For activities not adequately addressed in the MWMP EIR or facilities that need to be added to the MWMP, a separate review, likely under a separate or amended SDP/CDP, would be required in accordance with LDC Section(s) 126.0113, 126.0504, and 126.0707.

4.4.2.1.2 Multi-Habitat Planning Area Boundary Line Adjustment Approvals for Mitigation Sites

The City's MSCP Subarea Plan contains the City's portion of the MSCP preserve, also known as the Multi-Habitat Planning Area (MHPA). Under the MSCP Subarea Plan, the boundary of the MHPA has been delineated to include areas identified as core biological resource areas and corridors targeted for conservation within the City. Through cooperation and agreements between the City, the

resource agencies, and other constituents, future development and activities within the MHPA are limited by the LDC ESL regulations. These regulations and additional management requirements of the MSCP Implementing Agreement provide long-term site protection for lands within the MHPA (City of San Diego 1997).

As part of the MWMP, potential mitigation sites have been identified to provide compensatory mitigation for some or all of the impacts proposed at MWMP facilities (see Section 4.3 of the MWMP and Section 4.4.3, Compensatory Mitigation, herein). For the resource agencies to approve these mitigation sites for use as compensatory mitigation, the mitigation sites must have protection in perpetuity to ensure the long-term viability of their resources and functions, in accordance with the San Diego Biology Guidelines. Since any mitigation site proposed under the MWMP would be within the City or County limits, and likely on City-owned land, an MHPA boundary line adjustment (BLA) would be the proposed method to provide required long-term site protection and habitat management, if the mitigation site is not already located within the MHPA.

MWMP facilities proposed for maintenance may occur within the MHPA, but these facilities are essential public facilities that are an allowable and compatible use in the MHPA. Therefore, an MHPA BLA to conduct activities consistent with the MWMP is not required.

According to Section 1.1.1, Boundary Adjustments of the MSCP Subarea Plan, proposed adjustments to the MHPA boundary may be approved without amending the MSCP Subarea Plan if the boundary change results in an area of "equivalent or higher biological value" being added (City of San Diego 1997). According to Section 5.4.2, Subarea Plan Amendments and Preserve Boundary Adjustment Process, of the County's MSCP, this comparison of biological value would be made "by the local jurisdiction [City] and must have the concurrence of the wildlife agencies" (County of San Diego 1998). The comparison of biological value would be based on the following biological factors (County of San Diego 1998):

- Effects on significantly and sufficiently conserved habitats (i.e., the exchange maintains or improves the conservation, configuration, or status of significantly or sufficiently conserved habitats, as defined in Section 4.2.4 [of the County MSCP]);
- Effects to covered species (i.e., the exchange maintains or increases the conservation of covered species);
- Effects on habitat linkages and function of preserve areas (i.e., the exchange maintains or improves a habitat linkage or wildlife corridor);
- Effects on preserve configuration and management (i.e., the exchange results in similar or improved management efficiency and/or protection for biological resources);

- Effects on ecotones or other conditions affecting species diversity (i.e., the exchange maintains topographic and structural diversity and habitat interfaces of the preserve; and/or
- Effects to species of concern not on the covered species list (i.e., the exchange does not significantly increase the likelihood that an uncovered species will meet the criteria for listing under either the federal or state Endangered Species Acts).

Any MHPA BLA associated with a proposed MWMP mitigation site would be considered under an SCR Process Two (see Table 2-2 in Chapter 2, Introduction, of this EIR, or MWMP Table 7, DSD Subsequent MWMP Process Flow Chart, in MWMP Section 4, Implementation Procedures [Appendix A of this EIR]) and a CEQA Section 15162 Consistency Evaluation. For mitigation sites that cannot be processed through an SCR Process Two decision, the MHPA BLA would follow the current review and process requirements for a MHPA BLA that would impact and deviate from the ESL Regulations. A public notice would also be posted and sent to interested parties to allow the opportunity for comment as a required by the City's MSCP Implementing Agreement. Following the equivalency analysis cited above and receiving wildlife agency (i.e., U.S. Fish and Wildlife Service and CDFW) concurrence of the MHPA BLA addition, the MHPA BLA would undergo CEQA Section 15162 Consistency Evaluation (or other CEQA documentation) and be noticed for public comment period. The MHPA BLA approval would be issued through an SCR verification by the Development Services Department Project Manager. However, this approval may still be appealed to City Council, at which time an appeal hearing would be scheduled. A Resolution for the MHPA BLA approval would be prepared and recorded with the San Diego County Recorder/Assessor Office. Since the City's LDC does not explicitly require or define a process of approval for MHPA BLAs, this modified decision process for future MHPA BLAs needed for compensatory mitigation sites for MWMP activities would be codified via an Ordinance to be approved with the MWMP.

4.4.2.1.3 Other Authorizations

Minor maintenance is described above as being limited to activities that do not require discretionary approval or environmental review, and, therefore, would continue as is current practice. Minor maintenance activities are included in this project description and in the MWMP to comprehensively address storm water infrastructure maintenance and repair activities. Emergency activities may be initially authorized through established emergency procedures but would require after-the-fact approvals in accordance with the appropriate process for that activity/facility.

4.4.2.2 California Coastal Commission

The CCC's mission is the protection and enhancement of California's coast and ocean through regulation of the use of land and water in the Coastal Zone. The CCC retains coastal permit jurisdiction of all areas subject to tidal influence, for development on public trust lands, or for

municipalities that have not developed their own LCP. Municipalities with LCPs may issue their own CDPs (or exemptions) for development and maintenance and repair activities that occur within the Coastal Zone but outside of CCC's permit jurisdiction. However, the CCC may appeal CDPs issued by a municipality if the development would affect an Environmentally Sensitive Habitat Area (ESHA), wetlands, or within an "appealable area." Specific to wetlands, the limits of appeal jurisdiction are specified in the California Coastal Act Section 30603[a][1], as being within 100 feet of any wetland, estuary, or stream. Since the City has an adopted and certified LCP, it can issue its own coastal permits for areas under its jurisdiction. However, areas of deferred certification also exist within LCP segments. The CCC retains permit jurisdiction in areas of deferred certification or Coastal Commission Permit designation, and will issue its own permit.

As stated in Section 30610 of the California Coastal Act (California Public Resources Code Section 30240):

> [N]o coastal development permit shall be required for … (d) repair or maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of such repair or maintenance activities; provided, however, that if the Commission determines that certain extraordinary methods of repair and maintenance that involve risk of substantial adverse environmental impact, it shall, by regulation, require that a permit be obtained.

Exemptions for repair and maintenance activities are granted on a case-by-case basis when it can be demonstrated that the proposed activity or project results in no potential impacts to ESHA[1] occurring within the Coastal Zone. The California Code of Regulations Section 13252(a)(3), however, notes that extraordinary methods of repair and maintenance, e.g., "any repair or maintenance to facilities or structures or work located in an ESHA … or within 20 feet of coastal waters or streams that include placement or removal, whether temporary or permanent, of … any forms of solid materials." shall require a coastal development permit because they involve a risk of substantial impact.

Coastal permits can be obtained individually for each maintenance or repair project. However, maintenance and repair of multiple, similar sites can alternatively be collectively included in one master CDP application package. This state agency may also consider approval of a *Public Works Plan* for more complex, long-range, phased programs.

[1] Section 30240 of the California Coastal Act provides for the protection of Environmentally Sensitive Habitat Areas (ESHAs) and states that these areas shall be protected against significant disruption of habitat values, and only uses dependent on those resources shall be allowed. That policy also states development in adjacent areas shall be sited and designed to prevent impacts, and to be compatible with the continuance of the habitat (California Public Resources Code Section 30240).

The MWMP includes proposed FMPs at 13 channel facility groups that occur in the Coastal Zone. These occur within five adopted LCP land use plans that were certified by the CCC (Torrey Pines, Pacific Beach, Peninsula, Otay Mesa-Nestor, and Tijuana River Valley). The CDP approval process would be determined following verification of City versus CCC permit jurisdiction (i.e., deferred certification areas) for each proposed FMP area. Two separate CDPs would be issued, one from the City and one from the CCC for specific facilities within their respective jurisdictions. The City-issued CDP would be appealable to the CCC for those facilities within appealable areas. The City would also pursue the CCC's concurrence for federal consistency through the 404-Permit process for the activities permitted under the City-issued CDP. Programmatic activities are not planned to be included in the initial City-issued CDP for the MWMP, but could be included in subsequent CDPs or an amended CDP when project-specific information (including location) is identified.

Pursuant to the Coastal Zone Management Act (CZMA), an applicant for a federal license or permit (e.g., a Section 404 permit) to conduct an activity affecting any land or water use or natural resource of the Coastal Zone, must meet the federal consistency requirements of Section 307(c)(3)(A) of the CZMA. Under the California Coastal Management Program, the requirements of CZMA Section 307(c)(3)(A) can be met by receiving CCC-issued CDPs, which automatically satisfy federal consistency, and no further submittal is needed. The California Coastal Act constitutes California's coastal zone management program for purposes of the CZMA (California Public Resources Code Section 30008).

Local government-issued CDPs do not automatically satisfy federal consistency; therefore, the City would need concurrence with a consistency certification or a staff-issued waiver of the federal consistency provisions from the CCC. In instances where locally issued CDPs are appealable (e.g., most coastal activities that require a 404 permit), the CCC's federal consistency unit usually issues a waiver.

Coastal municipalities with approved LCPs that determine that a portion of their storm water and flood control facility maintenance activities are exempt from the need for a CDP still need to provide evidence of California Coastal Management Program-compliance to USACE. This can be met by obtaining concurrence with a consistency certification or a staff-issued waiver from the CCC, as noted above.

The CZMA does not include specifications for obtaining CCC concurrence with a consistency certification or CCC staff-issued waivers on a programmatic level. However, the federal consistency unit of the CCC reviews the numerous activities for which a USACE Regional General Permit is being sought and the corresponding CDP(s) or exemption(s), and concur or issue waivers accordingly. USACE cannot issue its 404 Permit for fill in coastal waters until evidence of California Coastal Management Program compliance is provided.

4.4.2.3 California Department of Fish and Wildlife

CDFW's mission is to "manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public" (CDFW 2017). Proposed MWMP activities have the potential to be regulated under the California Fish and Game Code, California Endangered Species Act, and California Natural Communities Conservation Act, all of which are administered by CDFW. Proposed MWMP activities are not anticipated to result in take of any state-listed species that are not also covered species under the MSCP, and, therefore, the MWMP would typically only require a streambed alteration agreement (SAA) from CDFW, pursuant to Section 1602 of the California Fish and Game Code, for any alteration of a lake or streambed. A 5-year SAA (or longer-term master SAA) would likely be used to address requirements for maintenance of facilities that have a history of routine channel maintenance and documented as-built drawings. Removal of minimal vegetation (insufficient to constitute habitat for native species) from a concrete-lined channel, and repair and replacement of concrete channel lining would not typically require an SAA. Activities within earthen-bottom facilities and the removal of stands of vegetation large enough to form habitat would require an SAA or master SAA.

The master SAA would also include requirements that provide for compliance with nesting bird regulations within the California Fish and Game Code, as well as the California Endangered Species Act and *Natural Community Conservation Plan* compliance (the City's SDP also provides for California Endangered Species Act and *Natural Community Conservation Plan* compliance through compliance with the City's MSCP).

4.4.2.4 California Regional Water Quality Control Board

RWQCB oversees several different permits and programs that may influence or have requirements for MWMP activities. RWQCB adopts basin plans that identify beneficial uses, water quality objectives, and implementation plans. The City's maintenance methods must generally be conducted using BMPs to minimize impacts to designated beneficial uses.

RWQCB issues an MS4 Permit every 5 years that guides operation of the MS4 in a manner that protects water quality by requiring certain construction BMPs that are also applicable to maintenance activities.

The only project-specific review and permit issuance that RWQCB requires is pursuant to the federal Clean Water Act Section 401 certification. For those activities with impacts to waters of the state that are not waters of the United States or are not regulated under the federal Clean Water Act, a Waste Discharge Requirement may be required pursuant to the Porter-Cologne Water Quality Control Act. These permits are typically issued by RWQCB but may also be issued programmatically by the State Water Resources Control Board through general Waste Discharge Requirements. A water quality

certification application, along with an initial fee and annual fees, is required. Typically, a separate water quality certification is also required for each Section 404 dredge-and-fill permit issued by USACE.

4.4.2.5 U.S. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, USACE regulates the discharge of dredged and/or fill material into "waters of the United States." The term "wetlands" (a subset of waters) is defined in Title 33, Section 328.3(c), of the Code of Federal Regulations (CFR) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR Section 328.3(c)(4)). In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the "ordinary high water mark," which is defined in 33 CFR Section 328.3(c)(6).

USACE typically requires a Section 404 permit in situations when material (e.g., sandbags, check dams) is placed or discharged and/or equipment is operated within jurisdictional earthen-bottom channels. Activities limited to concrete-lined channels and/or excavation using equipment staged outside of jurisdictional waters often do not require a Section 404 permit, based on the Section 404(f)(1) maintenance exemption. This exemption allows for maintenance of "currently serviceable structures" where the removal of vegetation and/or sediment does not constitute a "modification that changes the character, scope, or size of the original fill design" (33 CFR Section 323.4(a)(2)). Section 404 permits typically issued for maintenance include Nationwide Permits, Individual Permits, and Regional General Permits. Although the Tijuana River and Smuggler's Gulch FMP is covered by an Individual Permit, other proposed MWMP activities that require Section 404 authorization are proposed for inclusion in a Regional General Permit.

The Section 404 permit review process includes regulatory review of avoidance and minimization measures, compensatory mitigation for unavoidable impacts, Section 7 consultation with the U.S. Fish and Wildlife Service, Section 106 consultation with the State Historic Preservation Office, and federal CZMA consistency with CCC.

4.4.2.6 U.S. Fish and Wildlife Service

As described previously, the U.S. Fish and Wildlife Service typically consults with USACE during Section 7 review of any Section 404 permits that USACE issues for MWMP activities. In addition, the U.S. Fish and Wildlife Service is a signatory to the MSCP and provides review and oversight of MWMP compliance with the MSCP and Federal Endangered Species Act.

4.4.2.7 Summary of Regulatory Permits and Authorizations

Based on the proposed MWMP and applicable regulations and regulatory authority, as described above, the following is a summary of regulatory permits, authorizations, and consultations that would be required prior to implementation of the MWMP. Each regulatory permit review may result in modifications to the MWMP or may only authorize portions of the MWMP.

Local

- City of San Diego – SDP, CDP, and Ordinance

State

- CCC – CDP within areas of deferred certification and CCC permit jurisdiction, potential CDP appeal review, federal consistency determination
- CDFW – Master Streambed Alteration Agreement
- California RWQCB, San Diego Region – Water Quality Certification, Waste Discharge Requirement enrollment

Federal

- USACE – Regional General Permit
- U.S. Fish and Wildlife Service – Section 7 Consultation
- State Historic Preservation Office – Section 106 Consultation

4.4.3 COMPENSATORY MITIGATION

Approach and Strategies

TSW uses all forms of available compensatory mitigation, including permittee-responsible mitigation, advance permittee–responsible mitigation, third-party mitigation banks, and, if available, in-lieu fee programs. TSW is actively investing in identifying potential wetlands establishment/reestablishment, restoration/rehabilitation, enhancement, and preservation opportunities, particularly on City-owned land.

The following section provides a list of currently identified mitigation areas for each FMP. Additional mitigation projects may be used to mitigate MWMP facilities provided the mitigation meets all or a portion of associated permits and ESL requirements.

Compensatory Mitigation Areas

All facilities within FMPs have identified current or future potential compensatory mitigation. Mitigation sites are listed and described in the MWMP in terms of FMP impacts that have been, or are planned, to be mitigated at that corresponding mitigation site. More detail and maps are provided in Appendix F of Appendix D - *Biological Resources Technical Report* (Dudek 2019). Mitigation sites are classified based on the following five groups:

- **Group 1** – Mitigation sites that have been completed or are under construction (e.g., El Cuervo Mitigation Project, El Cuervo del Sur Phase I, Los Peñasquitos Phase I/Primary Enhancement Area, Famosa Slough Salt Marsh Mitigation, San Diego River [Stadium] Wetland Mitigation Project, Tijuana River Emergency Wetlands Creation Mitigation Project, Tijuana River Valley Enhancement Project)
- **Group 2** – Mitigation sites currently proposed with draft Habitat Mitigation and Monitoring Plans (e.g., El Cuervo del Sur Phase II, Los Peñasquitos Canyon Phase II/Secondary Enhancement, Otay Reed, Hollister Quarry, 2015-16 Emergency Channel Maintenance Mitigation Project, Smythe Channel and Via de la Bandola Channel Permittee Responsible Mitigation Project, Jamacha Canyon Rehabilitation Project)
- **Group 3** – Mitigation sites identified for potential future implementation, including sites that may be integrated, multi-benefit CIP Projects (e.g., various sites identified in the Chollas Creek Watershed Master Plan and Chollas Creek Enhancement Program, Hollister Pond, Marron Valley Wetlands, Otay Valley Regional Park, Sefton Field/Pueblo Lot 1102, Los Peñasquitos Lagoon Restoration, San Dieguito Lagoon East, Mission Bay Park Improvements, Shepard Canyon)
- **Group 4** – Credits for upland mitigation requirements (e.g., deduction of credits from the City's Marron Valley Cornerstone Mitigation Bank, payment into the City's Habitat Acquisition Fund)
- **Group 5** – Approved or potential third-party mitigation banks (e.g., Wildlands Inc. San Luis Rey and/or Rancho Jamul Mitigation Banks, Port of San Diego Pond 20 wetlands mitigation bank)

4.4.4 REPORTING

Since maintenance is often targeted to occur during the non-breeding season to the extent feasible, the annual date for initiation of the maintenance period is designated as September 16. TSW would prepare an annual maintenance and monitoring report to summarize implementation of FMPs, any programmatic maintenance, and associated mitigation measures (including status of compensatory mitigation sites) for the previous year. A presentation regarding the previous year of maintenance would be made on an annual basis to the Environment Committee of the San Diego City Council and offered to the Community Planners Committee. In this presentation, TSW would also outline the

maintenance planned to be carried out in the coming year. This same information would be provided to the appropriate state and federal agencies and included as an attachment to the City's MSCP Annual Report.

Annual Municipal Waterways Maintenance Plan Report

With respect to the past year of maintenance, the annual MWMP report would include the following:

- Tabular summary of the acreages of sensitive vegetation impacted at each facility that was maintained and the mitigation provided
- Scaled map of each affected storm water facility
- Updated master storm water facility list/table to reflect the facilities for which impacts have been mitigated and for which no additional mitigation will be required
- Summary of the status of mitigation that has been carried out during the current and previous years to mitigate for impacts to upland and wetland vegetation and sensitive species
- Digital date-stamped photograph of each area that was maintained in the reporting year

The annual MWMP report would not include minor maintenance activities, which do not have any impacts that require mitigation.

Project Pre-, During, and Post-Maintenance Documentation

Following maintenance, a post-project maintenance record would be prepared by adjusting the project's FMP to match the post-maintenance field conditions. The post-maintenance record would be prepared to document conditions prior to, during, and after maintenance. The post-maintenance records would document any changes to the FMP (e.g., changes to the project's activity footprint, access, loading, staging, and/or stockpiling areas, or changes to the recommended BMPs as identified in the project's WPCP), and identify actual amount of sediment/vegetation removed (measured in tons). It will also include pre-, during, and post-maintenance photo-documentation prepared in compliance with regulatory permit reporting requirements.

4.5 ALTERNATIVES CONSIDERED BUT DISMISSED FROM FURTHER CONSIDERATION

4.5.1 OFF-SITE RUNOFF REDUCTION (LOW IMPACT DEVELOPMENT) ALTERNATIVE

This alternative would involve implementing low-impact-development measures within off-site watershed areas to reduce runoff generation and resulting flows into storm water facilities located

within the WMP. Low-impact development refers to systems and practices that use or mimic natural processes that result in the infiltration, evapotranspiration or use of storm water in order to reduce runoff entering the storm water system and improve water quality. This alternative would be, by definition, implemented in areas outside the storm water facilities. In addition, the Off-Site Runoff Reduction Alternative would target low-impact-development retrofit measures in applicable existing developed areas, and sites with new development or redevelopment projects.

4.5.2 LIMITED FREQUENCY MAINTENANCE ALTERNATIVE

Under this alternative, the frequency of maintenance of any facilities would be limited to one cleaning/maintenance event every 2 years. Although the total number of facilities subject to maintenance would not be reduced with this alternative, by requiring a minimum 2-year interval between maintenance events, some interim vegetative growth could potentially reduce impacts to biological and water quality resources.

4.5.3 ALTERNATIVE ENGINEERING DESIGN

Under this alternative, structures (e.g., walls or levees, channel widening, flow reduction/bypass) would be constructed to increase flood conveyance capacity or reduce runoff volumes/water surface elevation, without the removal of accumulated vegetation and sediment. The structures would offset the effect of vegetation and sediment by allowing water elevations to increase without spilling out into adjacent developed areas or by reducing flow volumes through the facility. Channel-specific engineering would be undertaken to determine the additional "bank" height, channel width, and/or flow modifications needed.

4.5.4 MAINTENANCE OF CONCRETE-LINED FACILITIES ONLY ALTERNATIVE

Under this alternative, earthen bottom facilities would not be maintained. Activities within concrete-lined channels/ditches, basins, and structures would be identical to those under the proposed Project. This alternative was developed to reduce habitat and water quality impacts (from disturbing earthen channels). However, reducing such a broad category of facilities would not achieve basic project objectives to protect life and property and reduce flooding. Alternatives discussed in Section 4.6.4 would more carefully consider avoiding problematic areas to reduce environmental impacts (and associated permitting costs and delays).

4.6 ALTERNATIVES SELECTED FOR FURTHER CONSIDERATION

For each alternative considered in this EIR, this section contains a description of the alternative, the rationale for its inclusion in the range of alternatives, and a discussion of impacts compared to the proposed project. The evaluation of alternatives is provided in Chapter 8, Comparison of Alternatives.

4.6.1 NO PROJECT/NO ACTION ALTERNATIVE (ALTERNATIVE 1)

The No Project Alternative provides the existing conditions of the project area at the time the Notice of Preparation is published, and what would be reasonably expected to occur in the foreseeable future if the proposed project were not approved (CEQA Guidelines 15126.6(e)(2)). This alternative compares the environmental effects of approving the project versus the impacts of not approving the project.

4.6.2 REDUCED IN-STREAM MAINTENANCE ALTERNATIVE (ALTERNATVE 2)

Under this alternative, sediment removal would be entirely conducted from top-of-bank without use of heavy equipment placed in the channel/ditch or basin. Sediment removal activities would avoid direct in-stream impacts resulting from the presence of heavy equipment in the channel. Vegetation may be managed using non-mechanical means such as hand tools and herbicide application.

In many locations, without equipment in the channel/ditch or basin, maintenance of the facility would be limited to non-mechanical vegetation removal; accumulated sediment would not be removed in most locations. This alternative may include additional bank access in certain facility locations.

4.6.3 LIMITED SEDIMENT REMOVAL ALTERNATIVE (ALTERNATIVE 3)

Under this alternative, no sediment would be removed from earthen facilities. Sediment would still be removed from concrete-lined facilities due to the risk of downstream plugs and the potential need for infrastructure repair.

4.6.4 ALTERNATIVE SEDIMENT MANAGEMENT APPROACH (ALTERNATIVE 4)

Under this alternative, maintenance would be designed in a manner that leaves strips of sediment/vegetation in each facility, particularly within channels/ditches. Sediment removal activities would continue to be conducted in-channel, so impacts resulting from the presence of heavy equipment in the channel would remain.

The concrete-lined channels/ditches proposed for maintenance under the MWMP were designed to be unvegetated. Maintenance of concrete-lined structures through the removal of accumulated sediment and vegetation is required according to analysis conducted by multiple flood management agencies including USACE to prevent clogging of downstream culverts and other significant reductions in facility capacity that can result in increased flood risk (USACE 1999).

4.6.5 REDUCED PROJECT ALTERNATIVE (ALTERNATIVE 5)

This alternative would remove selected facilities from the MWMP. The facilities to be removed would be those facility groups that would adversely affect wetlands greater than 0.5 acres in area that have not been previously permitted and mitigated. These facility groups are as follows:

- Los Peñasquitos Canyon Creek – Black Mountain Facility Group
- Tecolote Creek – Genesee Facility Group
- Mission Bay – Mission Bay Drive Facility Group
- Nestor Creek – Nestor Facility Group

Facilities that would involve impacting more than 0.5 acres of wetlands would need to be addressed in the future through an individual environmental review and permitting process.



DUDEK

Municipal Waterways Maintenance Plan EIR

SOURCE: City of San Diego, 2018

Figure 4-1 - City of San Diego Transportation & Storm Water Department Holistic Approach

Last saved by: mwatson - Path: Z:\Projects\CityofSDAs\Needed\923401\MAPDOC\DOCUMENT\City_of_SD\CEQA\PD

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

City of San Diego
Open Space/Parks
Multi-Habitat Planning Area
Coastal Zone

Municipal Waterways Maintenance Plan

Proposed MWMP Project Facilities (FMPs)
Additional Facilities (MWMP Limited Program-Level Activities)

4-2a
4-2b
4-2c
4-2d
4-2e
4-2f
4-2g
4-2h.1
4-2h.2

Watershed

San Dieguito River
Los Peñasquitos
Mission Bay
San Diego River
Pueblo San Diego
Sweetwater
Otay
Tijuana River

N
0 2.5 5 Miles

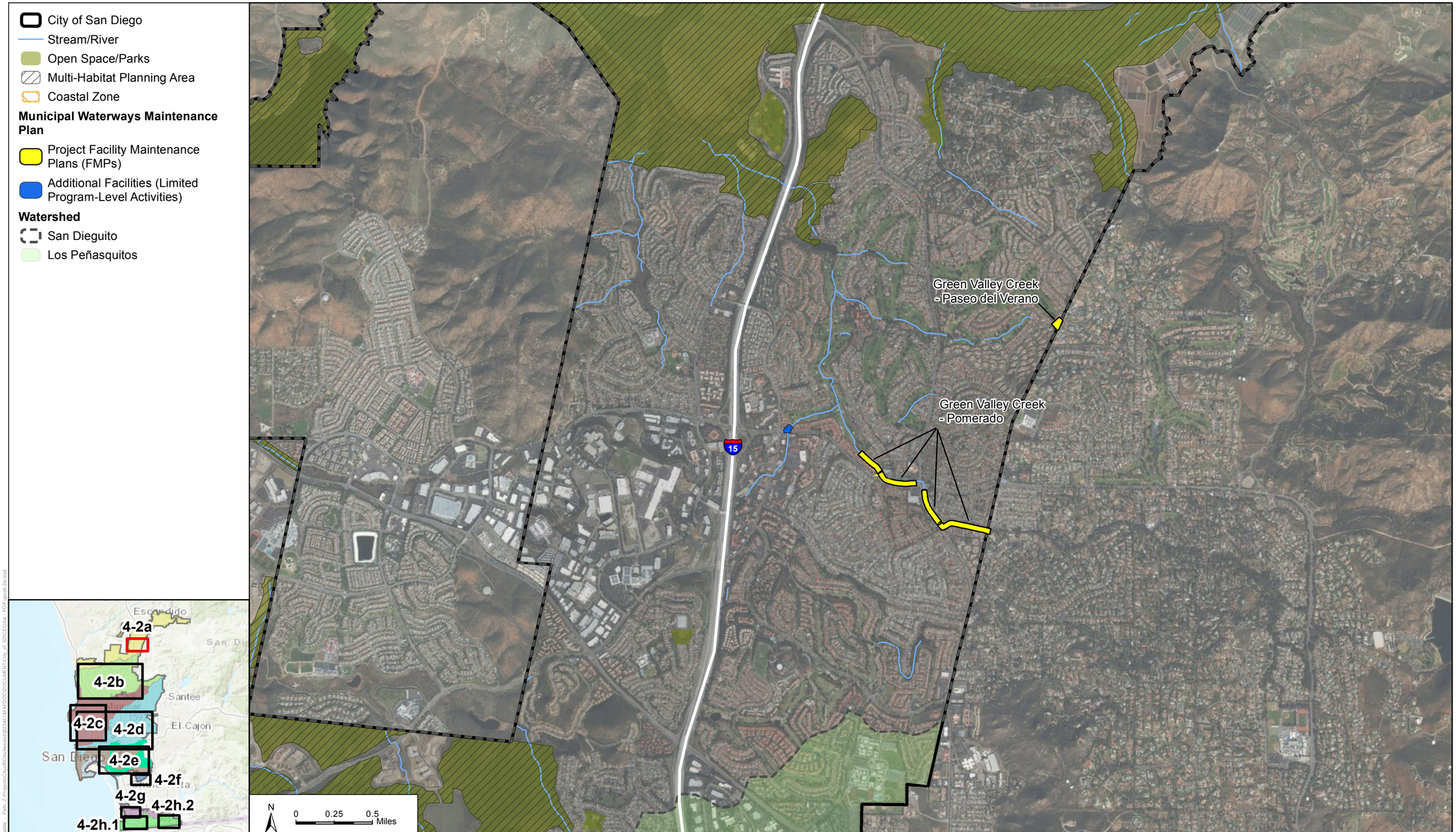
DUDEK

Municipal Waterways Maintenance Plan EIR

SOURCE: ESRI, 2017; SANDAG, 2017; USGS, 2012

Figure 4-2 - City-Wide Overview/Index Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



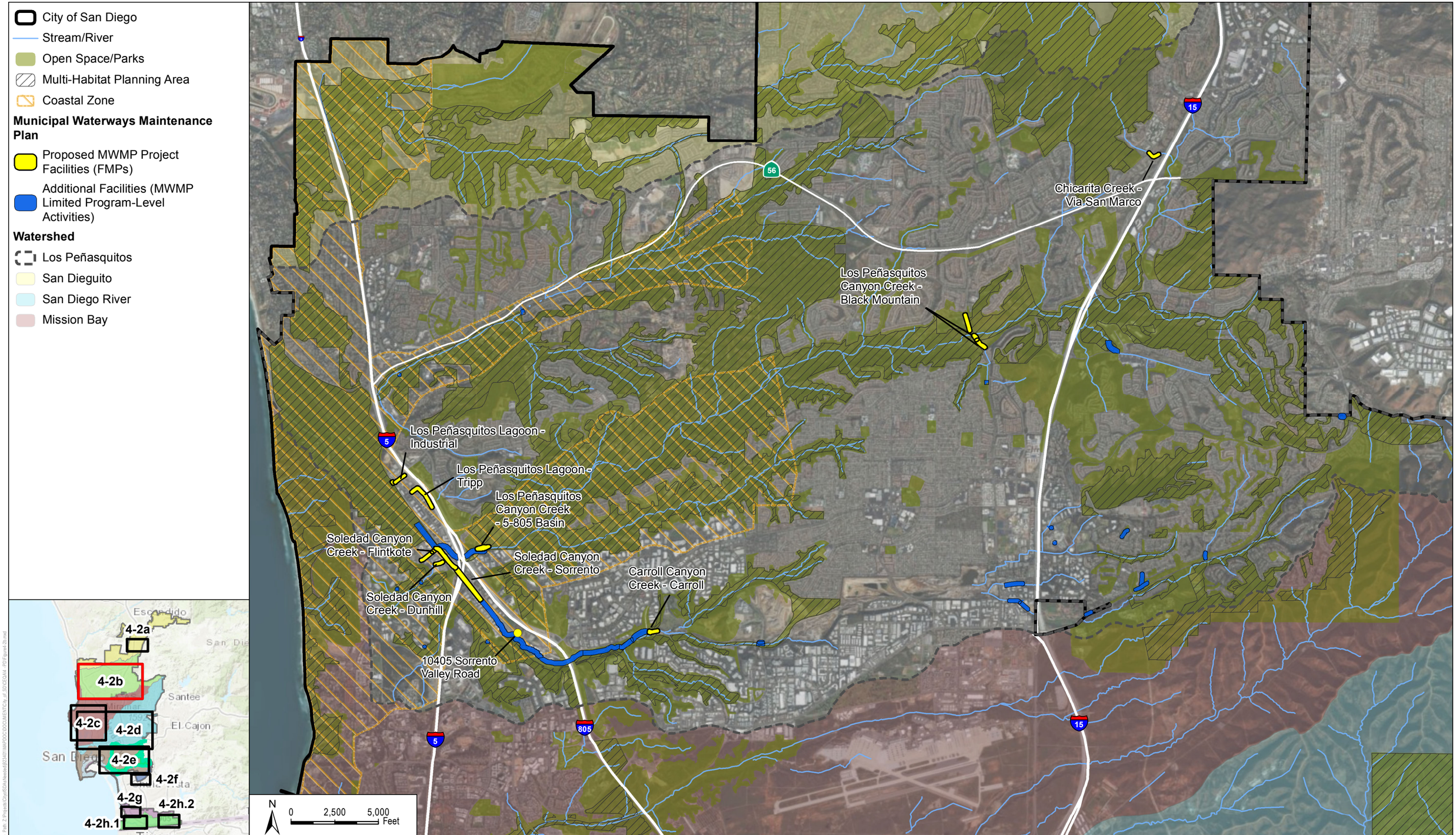
DUDEK

Municipal Waterways Maintenance Plan

SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

Figure 4-2a - San Dieguito River Watershed

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



DUDEK

Municipal Waterways Maintenance Plan EIR

SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

Figure 4-2b - Los Peñasquitos Watershed

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



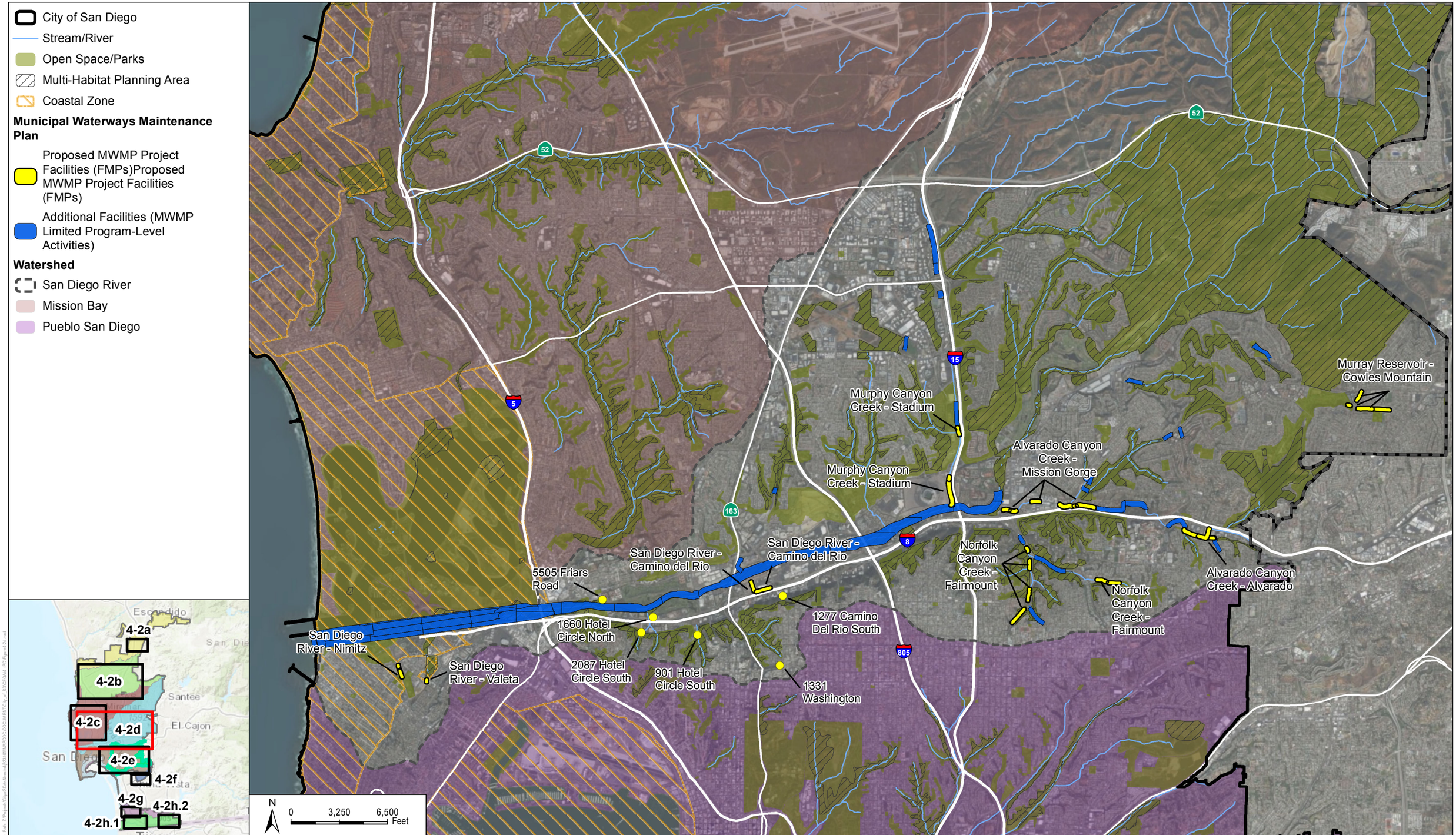
DUDEK

Municipal Waterways Maintenance Plan EIR

SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

Figure 4-2c - Mission Bay Watershed

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



DUDEK

Municipal Waterways Maintenance Plan EIR

SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

Figure 4-2d - San Diego River Watershed

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



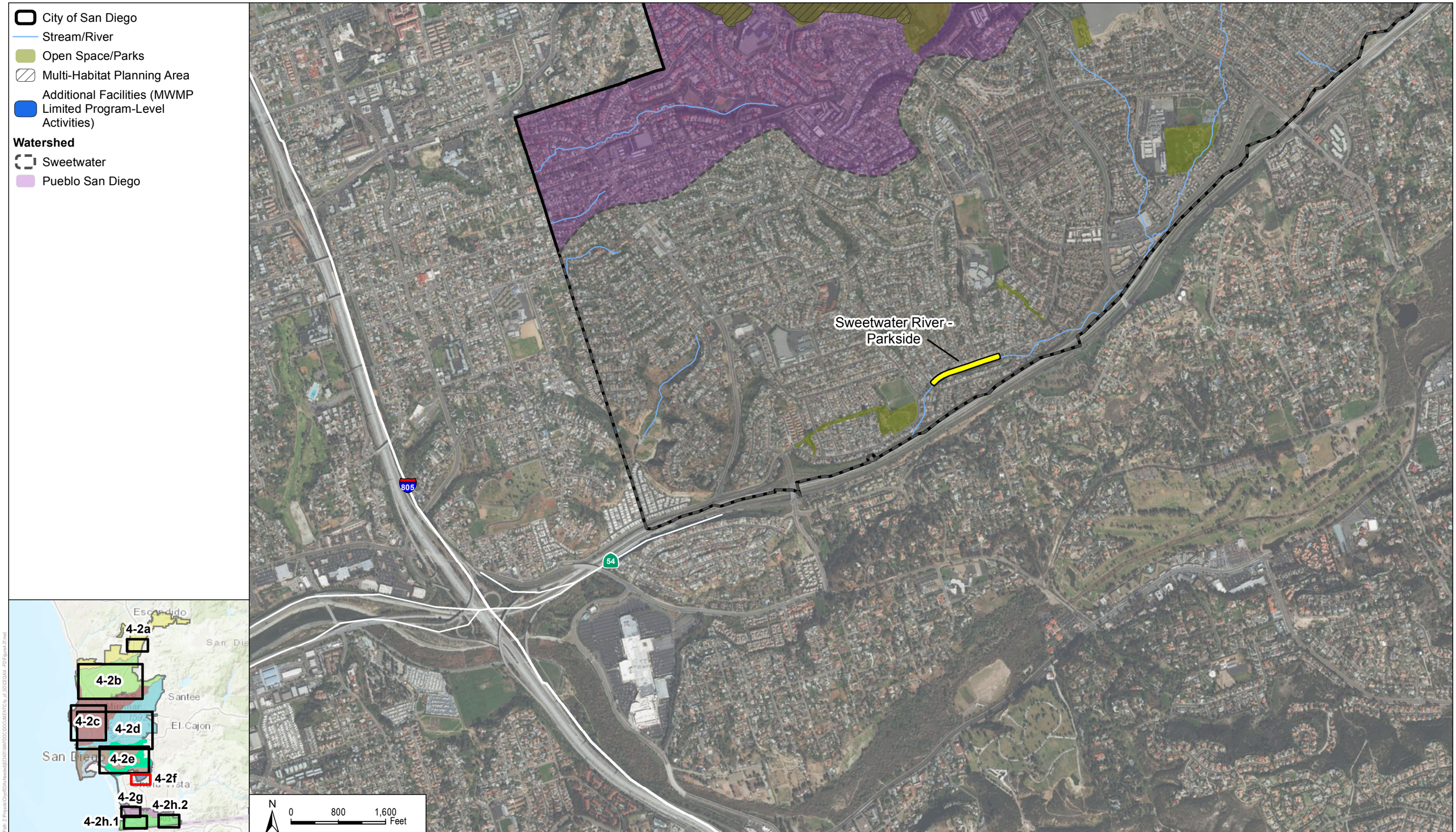
DUDEK

Municipal Waterways Maintenance Plan EIR

SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

Figure 4-2e - Pueblo San Diego Watershed

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



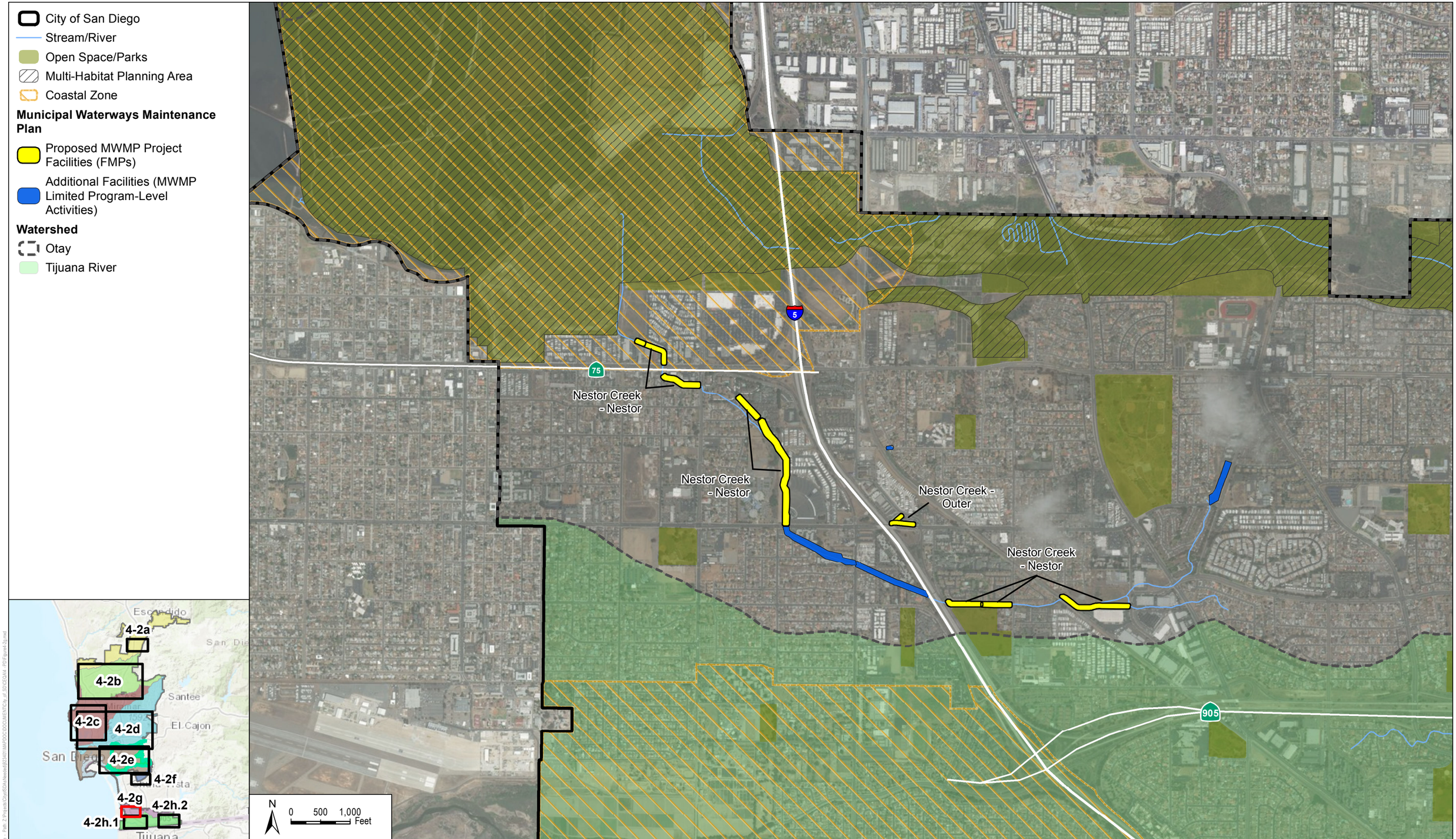
DUDEK

Municipal Waterways Maintenance Plan EIR

SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

Figure 4-2f - Sweetwater Watershed

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



DUDEK

Municipal Waterways Maintenance Plan EIR

SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

Figure 4-2g - Otay Watershed

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

City of San Diego
Stream/River
Open Space/Parks
Multi-Habitat Planning Area
Coastal Zone

Municipal Waterways Maintenance Plan

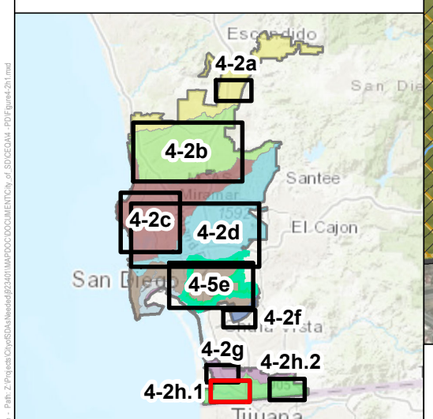
Proposed MWMP Project Facilities (FMPs)
Additional Facilities (MWMP Limited Program-Level Activities)

Watershed

Tijuana River
Otay

Tijuana River - Tocayo
Tijuana River - Smythe
Tijuana River - Smythe
Tijuana River - Pilot & Smuggler's
Tijuana River - Pilot & Smuggler's

905
5
805



N
0 1,000 2,000 Feet

DUDEK

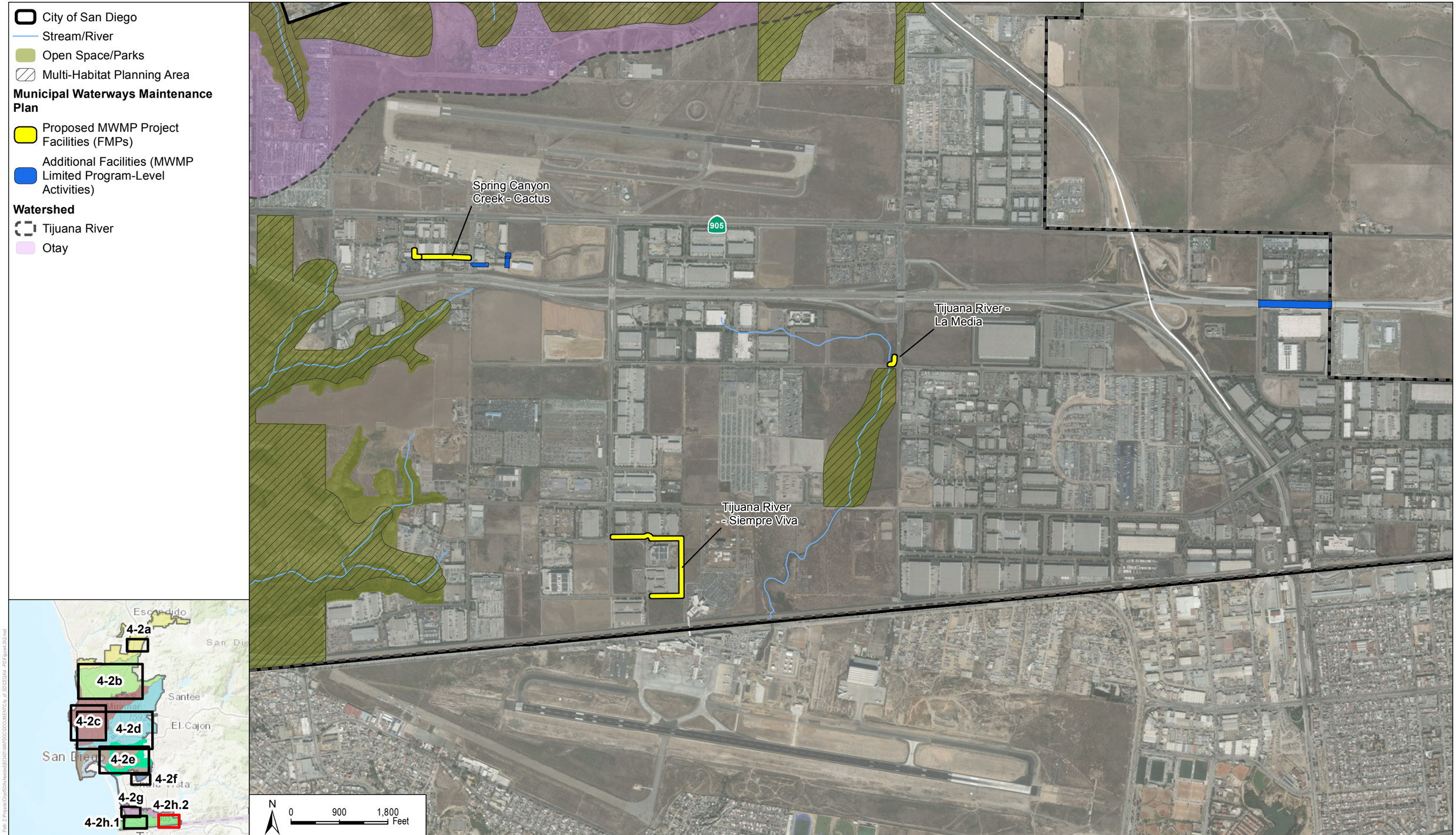
SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

Municipal Waterways Maintenance Plan EIR

Figure 4-2h.1 - Tijuana River Watershed

Date: 5/16/2019 - Last saved by: cbattle - Path: Z:\Projects\CityofSDAs-Needed\823401\MAPDOC\DOCUMENT\City of SD\CEQA\4. PDF\gure4-2h1.mxd

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



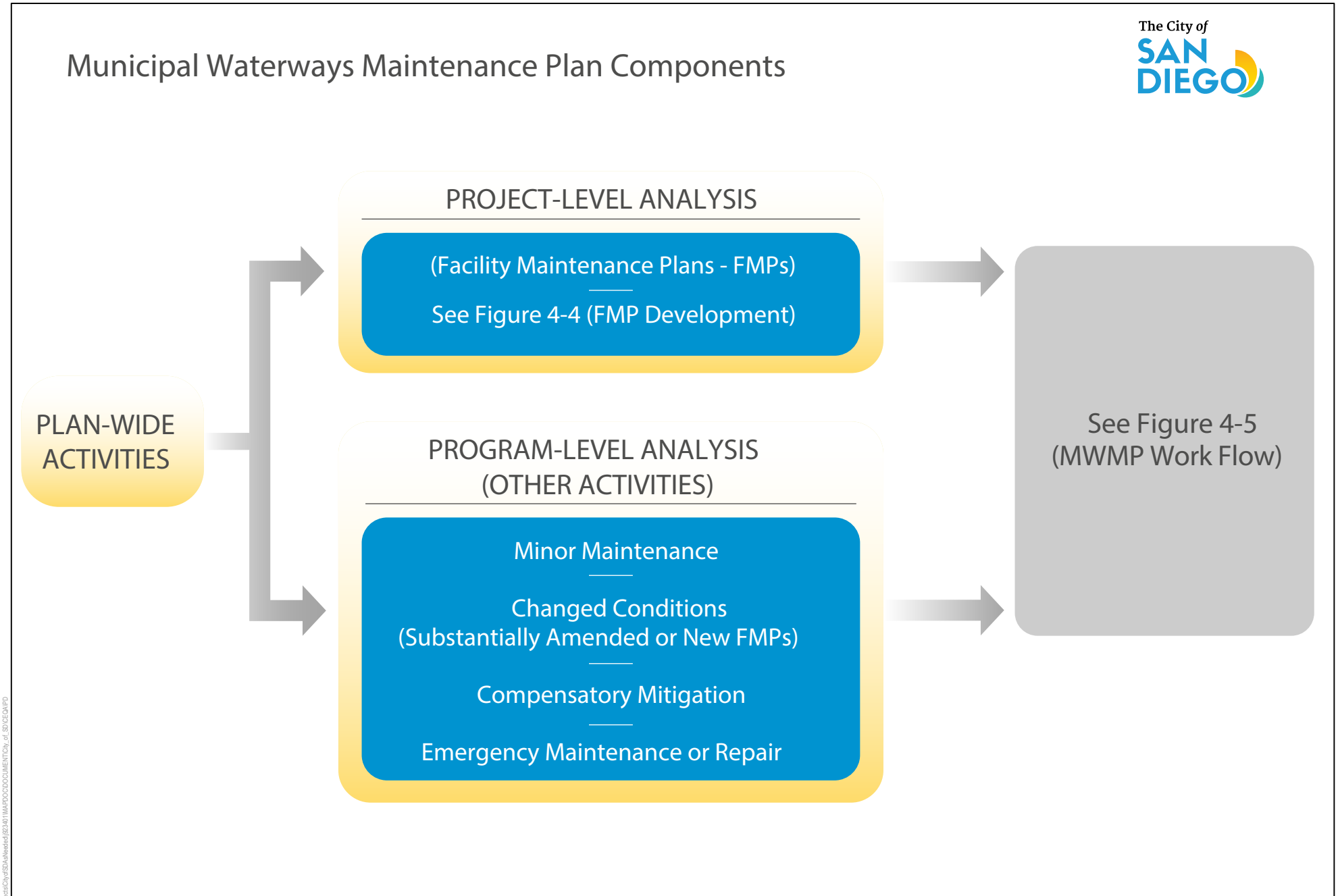
DUDEK

Municipal Waterways Maintenance Plan EIR

SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

Figure 4-2h.2 - Tijuana River Watershed

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



DUDEK

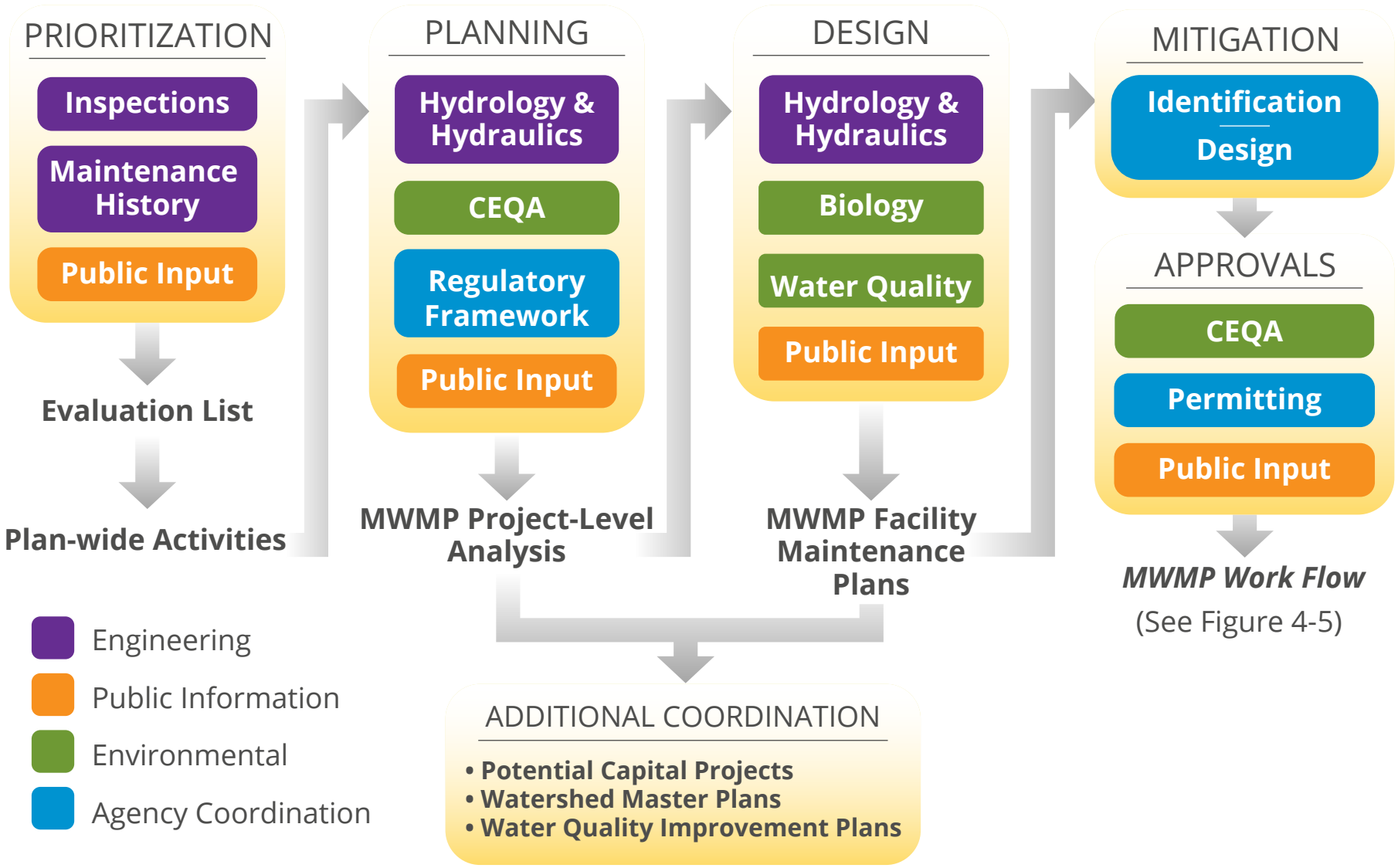
SOURCE: City of San Diego, 2018

Municipal Waterways Maintenance Plan EIR

Figure 4-3 - Municipal Waterways Maintenance Plan Components

Last saved by: mwatson - Path: Z:\Projects\CityofSDAs\Needed\923401\MAPDOC\DOCUMENT\City_of_SD\CEQA\PD

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



DUDEK

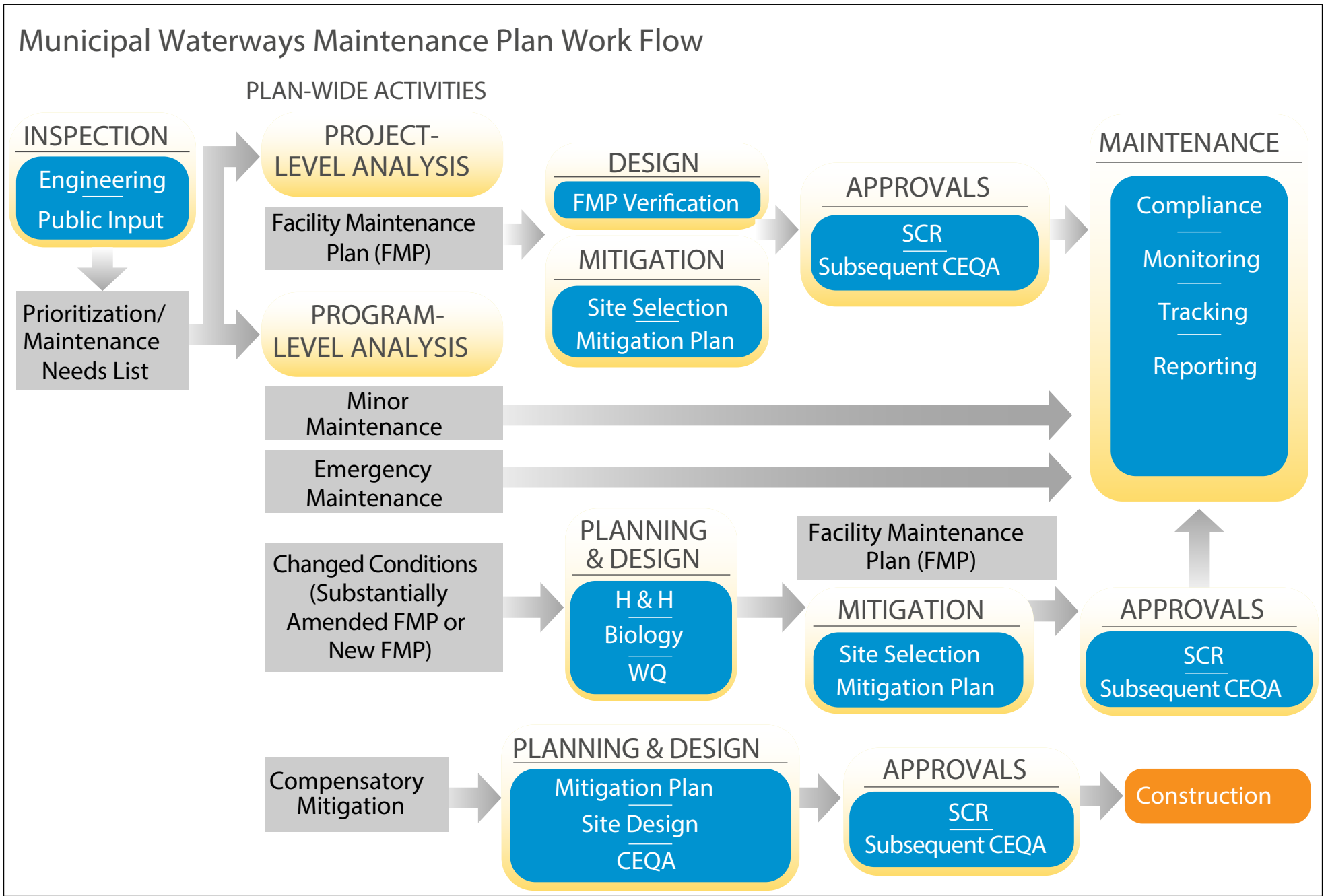
SOURCE: City of San Diego, 2018

Municipal Waterways Maintenance Plan EIR

Figure 4-4 - Facility Maintenance Plan Development

Last saved by: mwatson - Path: Z:\Projects\CityofSDAsNeeded\923401\MAPDOC\DOCUMENT\City_of_SD\CEQA\PD

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



DUDEK

SOURCE: City of San Diego, 2018

Municipal Waterways Maintenance Plan EIR

Figure 4-5 - Operations and Maintenance Plan Work Flow

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

CHAPTER 5.0 ENVIRONMENTAL ANALYSIS

This section provides an overview of the analysis of each California Environmental Quality Act (CEQA) issue area with potential for significant impacts related to the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP).

As discussed in Chapter 4, Project Description, of this Environmental Impact Report (EIR), the MWMP plan-wide maintenance and repair activities may occur throughout the City's municipal separate storm sewer system (MS4). The majority of the routine maintenance is identified in Appendix A with a Facility Maintenance Plan (FMP); the effects of implementation of these FMPs are analyzed at a project level. Additional maintenance and repair activities not identified in these FMPs or activities associated with maintenance (e.g., implementation of compensatory mitigation) are analyzed at a program level.

To identify facilities that are most likely to require routine maintenance, a broad list of facility locations were initially reviewed before the final list of FMPs were determined. Therefore, some issue areas discussed in this EIR (and their corresponding technical studies) cover the initial broader group of facilities, and other issue areas focus only on the final list of facilities for which FMPs are proposed. In addition, for some issue areas, evaluation of a representative set of FMPs (i.e., projects) was determined to be adequate to identify potentially significant impacts.

The full MWMP (Appendix A), including project-level FMPs and program-level additional activities, is evaluated as required under CEQA for each issue area. However, because the level of detail and facilities list within the supporting technical documentation varies, this introductory section is provided as a guide.

5.0.1 SELECTION OF FACILITIES REQUIRING A FACILITY MAINTENANCE PLAN

As discussed in Chapter 4 of this EIR, the MWMP was developed first by broadly considering what storm water facilities are most likely to require routine maintenance and repair that could result in regulated impacts.

From that review, 69 facility groups[1] were identified for evaluation to determine the need for maintenance or repair. These are listed below.

- Facility Selection List
  - Total of 69 facility groups – 129 segments[1]
    - 53 channel/ditch groups – 112 segments
    - 6 basin groups – 7 segments
    - 10 structure groups – 10 structures

Largely based on the evaluation of hydrology and hydraulics (to determine facility condition and capacity and the potential flood risk to adjacent properties), FMPs were prepared for 66 facility groups, as follows:

- Project-Level FMP List
  - Total of 66 group FMPs – 113 segments
    - 50 channel/ditch groups – 96 segments (MWMP Appendix A-1)
    - 6 basins groups – 7 segments (MWMP Appendix A-2)
    - 10 structures groups – 10 structures (MWMP Appendix A-3)

When the hydrology and hydraulics analysis indicated maintenance would not appreciably reduce flood risk and no potential repairs exist, an FMP was not prepared for that entire facility segment since no maintenance or repair would be recommended. This applied to 16 facility segments (which is the difference between the 129 segments included as part of the facility selection list and the 113 segments that required FMPs). Technical summaries of these 16 facility segments are included in Appendix A-5 of the MWMP to provide baseline environmental conditions and requirements should maintenance be required in the future. These 16 facility segments, along with all other portions of the City's storm water infrastructure that did not go through a site-specific hydrology and hydraulics evaluation (listed in MWMP Appendix A-6), are subject to potential maintenance activities, as indicated in the programmatic analysis included in this EIR.

[1] Facility groups are drainage facilities that are located on the same drainage and in proximity to one another and/or have been maintained concurrently; these were placed in a facility group. Each facility group consists of one or more facility segments. A facility segment is a portion of a drainage facility that has been divided into segments based on a change in channel substrate (earthen-bottom versus concrete-lined), Coastal Zone boundary, and/or a four-lane or larger roadway.

5.0.2 TECHNICAL REPORTS COVERING PROJECT-LEVEL FMP LIST ONLY

Technical reports for the following CEQA topics provide issue-area analysis for facilities on the project-level FMP list only (i.e., 66 facility groups consisting of 113 segments):

- Biological Resources (Appendix D)
- Water Quality (Appendix J)

5.0.3 TECHNICAL REPORTS COVERING FACILITY SELECTION LIST

Technical reports for the following CEQA topics provide issue-area analysis for facilities on the facility selection list (i.e., 69 facility groups consisting of 129 segments):

- Historical Resources (Appendix E)
- Cultural Resources (Appendix F)
- Paleontological Resources (Appendix H)

Additionally, each of the above three technical reports were developed to address all potential MWMP activities at each of the facility selection list locations. Therefore, rather than analyzing specific activities proposed under each FMP, the analysis for these issue areas each resulted in a screening matrix that can be used to exempt certain activities at certain facilities from future review, while those activities that may result in significant impacts are subject to future review. This approach was utilized because certain details regarding maintenance of facilities have not been developed or are subject to change (e.g., surface texture treatment for concrete repair, or the amount of sediment export or "cut" at particular locations). These parameters affect the significance of impacts to these resources. The screening matrix approach provides a broader analysis that encompasses a larger range of potential project implementation scenarios.

The technical report for the following CEQA topic provides analysis for all of the channel/ditch and basin facilities, but does not include the 10 structures (i.e., 59 facility groups consisting of 119 segments):

- Hydraulic and Hydrology (Appendix I)

5.0.4 TECHNICAL REPORTS USING REPRESENTATIVE PROJECTS

Technical reports for the following CEQA topics provide evaluation of a representative set of facilities and activities:

- Air Quality and Greenhouse Gas Emissions (Appendix C)

- Noise (Appendix G)
- Solid Waste (EIR Section 5.11)

Appendix K, Representative FMP Selection Method, provides a description of how the representative projects were chosen and what assumptions were made to use these representative projects to represent implementation of the entire MWMP. A representative project approach was used partially because the level of detail required for emissions modeling (e.g., construction equipment, duration, export volume) is not available for all proposed FMPs. For air quality, greenhouse gas emissions, noise, and solid waste, a representative sample provides an adequate and appropriate estimation of the impacts that approval of the MWMP would have on those environmental resource areas, assuming that the selection of representative sites encompasses the scope and range of proposed activities and locations.

5.0.5 APPROACH TO ANALYSIS OF PROGRAMMATIC ACTIVITIES

As discussed above, the MWMP project description provides details regarding proposed maintenance at 66 facility group locations where routine maintenance is most likely to occur. Analysis of impacts associated with this proposed routine maintenance is provided at a project level to reduce the potential need for subsequent CEQA analysis. However, because flood risks are unpredictable and reducing flood risks may require maintenance and repair activities at MS4 facilities that occur throughout the City, these activities are analyzed programmatically. For each issue area, a mitigation framework is provided that indicates when mitigation measures identified at the project level (to reduce significant impacts from implementation of FMPs) would apply to programmatic activities.

Programmatic activities are anticipated to fall within one of four types; the approach to the environmental analysis for each is as follows:

1. Minor Maintenance or Repair. Minor maintenance or repair should not result in significant environmental impacts, and generally would not require subsequent environmental review.
2. Changed Conditions for New or Substantially Amended FMPs. To the extent that environmental impacts are similar to those identified for implementation of FMPs (i.e., project-level analysis), mitigation measures identified in the project-level analysis would be applied to these program activities as part of subsequent environmental review. Changed conditions for new or substantially amended FMPs that result in significant environmental impacts outside the scope of those impacts identified for the current FMP list would likely require subsequent environmental review.
3. Compensatory Mitigation Sites. Impacts to biological resources would necessitate implementation of compensatory mitigation. Some of the potential mitigation sites are only conceptually identified at this point. Potential environmental impacts associated with implementation of these future potential compensatory mitigation sites are identified

programmatically for each issue area. As with changed conditions for new or substantially amended FMPs, any significant environmental impact outside the scope of those impacts programmatically identified in this EIR would likely require subsequent environmental review.

4. Emergency Maintenance or Repair. Impacts associated with emergency maintenance or repair activities are anticipated to fall within the scope of environmental impacts identified for implementation of FMPs (i.e., project-level analysis), and, therefore, mitigation measures identified in the project-level analysis would be applied to these emergency activities as part of subsequent, after-the-fact environmental review.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

5.1 AESTHETICS/VISUAL EFFECTS AND NEIGHBORHOOD CHARACTER

5.1.1 INTRODUCTION

This section describes the existing aesthetics/visual resources setting of the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP); identifies the applicable regulatory framework; evaluates potential impacts associated with aesthetics/visual resources that would result from the proposed MWMP; identifies mitigation measures, if necessary, to reduce the level of impact associated with implementation of the proposed MWMP; and identifies the level of significance after mitigation. The analysis includes a discussion regarding the potential impacts of the maintenance and repair activities that would be conducted (e.g., methodologies), and potential impacts that could result from implementation of the maintenance and repair activity (e.g., removal of vegetation that changes the landscape or visual resource). As neither the California Environmental Quality Act (CEQA) nor the City specifically protects private views, potential visual effects and view impacts associated with the MWMP are evaluated from public vantage points.

The City's General Plan protects desirable views from public roadways and parklands to natural canyons, resource areas, and scenic vistas. The General Plan intends scenic, natural, and cultural features that contribute to community character and form be designated as open space in the community plans. Community plans identify specific visual resources that are important to community character, such as water bodies, the Centre City skyline, natural landforms, and open space. Visual resources may also be categorized as viewsheds, scenic overlooks, view corridors, and landmarks. For example, the *Mid-City Community Plan* and *Peninsula Community Plan* identify public viewpoints and view corridors. Community plans may identify public views of specific visual resources intended for protection, and may contain more detailed policies and maps. Specifically identified visual resources and public vantage points, as well as all parklands and designated open space, may be considered as view-sensitive areas within each community plan, as these resources are intended for protection of their visual character by the General Plan and community plans.

For evaluation of specific visual resources and their public views, community plans and park master plans that address areas where project-level activities would occur were reviewed to identify designated or specifically identified view categories. Although the park master plans reviewed either do not specifically address views or do not identify existing views from which project-activities would be visible, this evaluation focuses on community-plan-identified public views. These are listed as specific vistas and scenic views in Table 5.1-1, Community Plans and Identified Vistas, Scenic Views, and Public Vantage Points, by community plan. In addition and where applicable, the nearest MWMP facility where project-level activities would occur is identified, and a general statement regarding visibility of the facility from the identified visual resource or public vantage point is provided.

For site aesthetics and existing or MWMP facilities where project-level activities may undergo noticeable, yet cyclical, visual change, representative descriptions of the existing aesthetic setting and character of MWMP facilities and adjacent lands that are visible from identified public vantage points are described in Section 5.1.2.2. See Figures 5.1-1a through 5.1-1c, MWMP Facility Groups Visible from Community Plan Identified Public Vantage Points.

Lastly, implementation of the MWMP was determined to result in no impacts to existing day or nighttime views due to new sources of substantial light or glare. Similarly, no shading impacts would occur. As such, potential lighting, glare, and shading impacts are analyzed in Chapter 7, Effects Not Found to be Significant.

5.1.2 EXISTING CONDITIONS

The following discussion describes the existing aesthetic setting from a regional and community plan perspective. Available vistas and scenic views from public vantage points, and the variable visual character and quality of segments and basins in which project-level activities are proposed, are also described below.

5.1.2.1 Regional Setting

According to the *City of San Diego General Plan* Urban Design Element, San Diego's distinct visual character is defined by an unmatched natural setting (City of San Diego 2008). San Diego consists of varied terrain and geography including beaches, bays, hills, valleys, canyons, and mesas that serve as the foundation of geographically distinct neighborhoods. Much of the City of San Diego is situated in the coastal plain portion of southwestern San Diego County. Abutted by rising foothills on the east, the coastal plain landform has over time eroded into separate mesas that have been chiseled by numerous side canyons that have created major east–west flowing drainages, creeks, and rivers. The major named creeks and rivers are (from north to south) Los Peñasquitos Canyon Creek, Rose Canyon Creek, San Diego River, Alvarado Canyon Creek, Chollas Creek, Otay River, Nestor Creek, and Tijuana River. Creeks and drainages often flow intermittently due to rainfall variation and a long dry season. In general, development in the City is concentrated on flat mesas and valleys interspersed with natural and more urbanized canyon areas.

In addition to serving as foundations, terrain and geography also define the physical and mapped boundaries of neighborhoods. For example, large mesas such as the landform underlying the College Area have developed into unique communities that are physically bounded by distinct natural barriers, namely the major east–west canyons. In addition, the City's valley neighborhoods (e.g., Sorrento Valley, Mission Valley, and Carmel Valley) are defined by natural barriers, including steep hillsides, canyons, and mesas, and constructed barriers such as the region's interstate and highway system. Coastal

communities, including University, La Jolla, and Mission Beach, are defined by water bodies (such as the Los Peñasquitos Lagoon, Pacific Ocean, and Mission Bay) and constructed barriers.

MWMP facilities are located throughout the City's 342.5-square-mile area of coverage and traverse lands within the City's various community planning areas. These facilities contribute to the existing character of the local area. These facilities are either within urban, developed areas where they are part of the existing character of the neighborhood, or are within natural and community open space systems where they are part of the landscape character and often follow drainage contours that are lower than surrounding landforms. Specifically, the majority of urban MWMP facilities are located adjacent to roadways (30%), residential (25%), commercial/industrial/vacant (13%), and other land uses (e.g., hospitals, schools, office, communication utilities [19%]), as opposed to rural or natural open space (13%). In addition, MWMP activities occur on lands that may be used for passive recreational uses. Existing MWMP facilities employ a constructed design using concrete, a more natural soft-surface design, or a combination, and range from sparsely to heavily vegetated. Often, facilities are marginally visible to residents or users of the area due to location and proximity to public vantage points, including roads, trails, and parks. The City has continually operated a maintenance program that results in changing visual characteristics within these facilities. Periodic facility maintenance and repair activities, including vegetation management, sediment removal, concrete repair, bank repair, and associated activities, are historically typical for these facilities.

5.1.2.2 Community Planning Areas

The City's General Plan identifies 55 planning areas as part of its community planning program. Community plans for these areas describe present and planned land use activities designed to achieve a community's long-range goals. Because the community plans establish a framework to direct land use and development, they describe a desired visual character of communities and neighborhoods.

As listed in Tables 4-1 through 4-3 of Chapter 4, Project Description, the MWMP includes 66 Facility Maintenance Plan (FMP) groups (covering 113 segments) at the project level. These MWMP facilities are distributed throughout the City's community plan areas and include large and small segments and basins that may be visible from public vantage points including roads, parks, bike paths, open space, and/or natural reserves. For those communities where project-level activities are planned, identified vistas, scenic views and public vantage points are listed in Table 5.1-1, Community Plans and Identified Views, Scenic Vistas, and Public Vantage Points. In addition, the MWMP facility in which project-level activities would occur that is located nearest to the identified public vantage point is listed, and a general statement regarding visibility of the facility from the public vantage point is provided. Facilities that are visible from an identified public vantage point are indicated as such and are discussed in detail by their respective community plan under the corresponding subheading below. The following community plans either do not identify/designate specific public vantage points or MWMP facilities are

not located within viewing distance of identified/designated public vantage points. As such, these community plans are not discussed below: College Area, Rancho Bernardo, Rancho Peñasquitos, San Ysidro, and Tijuana River Valley. View-sensitive areas in these communities, such as designated open space, are evaluated as part of the broader analysis where applicable.

Table 5.1-1
Community Plans and Identified Vistas, Scenic Views, and Public Vantage Points

Community Plan Area	Identified Public Vantage Point	Description	Nearest MWMP Project-Level Facility (proximity)	Facility Public View Assessment
Clairemont Mesa	Designated open space west of Clairemont Drive	Views west to Mission Bay and ocean	No Project facilities in CP west of Clairemont Drive	Not visible.
	Communitywide	Views to Mission Bay, ocean, Fortuna and Cowles Mountains, canyons	Tecolote Creek–Genesee Facility Group (Genesee Segment 1) (50 feet from Genesee Avenue)	VISIBLE – Canyon and vegetation visible from Genesee Avenue.
College Area	Communitywide	View corridors between public rights-of-way and open space areas	MWMP facilities in the CPA are not located within designated open space as mapped in the community plan (City of San Diego 1989; Figure 20) and are lower in elevation than nearby mapped steep backyards	Not visible.
Encanto Neighborhoods	Federal Boulevard	Southwestward views from Federal Boulevard near and east of 60th Street identified on CP Figure 8-2 as scenic view	South Chollas Creek – Federal Facility Group (Federal Segment 2)	VISIBLE – Access and staging area, and in-facility vegetation, visible from westbound lanes.

Table 5.1-1
Community Plans and Identified Vistas, Scenic Views, and Public Vantage Points

Community Plan Area	Identified Public Vantage Point	Description	Nearest MWMP Project-Level Facility (proximity)	Facility Public View Assessment
Kearny Mesa	I-805	Create attractive views toward the community	Miramar – Engineer Facility Group (Engineer Segment 1) (0.25 miles west of I-805 near Balboa Avenue)	Not visible due to intervening terrain and development.
	SR-52	Create attractive views toward the community	Miramar – Engineer Facility Group (Engineer Segment 1) (0.80 miles south of SR-52 at Convoy Street)	Not visible due to intervening terrain and development.
	I-15	Create attractive views toward the community	Murphy Canyon Creek – Stadium Facility Group (Murphy Canyon Segment 1) (120 feet west of I-15 near Kinder Morgan petroleum facility)	VISIBLE – Vegetation within/adjacent to facility visible from SB I-15.
La Jolla	Torrey Pines Road	Road from which coastal body of water can be seen looking north toward the coast	Torrey Pines – Torrey Facility Group (Torrey Pines Segment 1) (adjacent to facility at	VISIBLE – Vegetation within/adjacent to facility visible.

Table 5.1-1
Community Plans and Identified Vistas, Scenic Views, and Public Vantage Points

Community Plan Area	Identified Public Vantage Point	Description	Nearest MWMP Project-Level Facility (proximity)	Facility Public View Assessment
			Pottery Park Driveway)	
	Pottery Canyon Park (City of San Diego Open Space Park)	Scenic Overlook looking west toward the coast	Torrey Pines – Torrey Facility Group (Torrey Pines Segment 1) (adjacent to facility)	VISIBLE – Facility and vegetation visible from public road and multi-use trail.
	La Jolla Scenic Drive	View west to the Pacific Ocean	Torrey Pines – Torrey Facility Group (Torrey Pines Segment 1) (640 feet west of La Jolla Scenic Drive near Caminito Bello)	Not visible due to intervening terrain and vegetation.
Mid-City (City Heights Eastern Area, and Kensington-Talmadge communities)[2]	Communitywide	Framed public views of existing aesthetic resources such as parks and community landmarks	Norfolk Canyon Creek – Fairmount Facility Group (Fairmount Segment 4) (0.25 miles northeast of Meade Avenue/Copeland Avenue intersection CP public view point)	Not visible due to intervening terrain, development and vegetation. Long eastward view to mountains are available and framed by street trees.
			Auburn Creek – Home Facility Group (Home Segment 1) (adjacent to Home	The viewpoint is not public. The outdoor space is located in a

Table 5.1-1
Community Plans and Identified Vistas, Scenic Views, and Public Vantage Points

Community Plan Area	Identified Public Vantage Point	Description	Nearest MWMP Project-Level Facility (proximity)	Facility Public View Assessment
			Avenue near Federal Boulevard and 50 feet southwest of an apartment complex outdoor space CP view point)	gated apartment complex.
			Auburn Creek – Home Facility Group (Home Segment 5) (approximately 140 feet southeast of Home Avenue and 385 feet south of Home Avenue CP public view point)	Not visible from public view point identified in CP due to intervening development and street trees.
	Communitywide	Public views of panoramic aesthetic features such as open space areas or significant architecture from streets and other public areas.	Norfolk Canyon Creek – Fairmount Facility Group (Fairmount Segment 4) (0.10 miles northwest of Aldine Drive near Fairmount Avenue)	Not visible due to intervening (and densely vegetated) canyon terrain.
			Chollas Creek – Megan Facility Group (Megan Segment 2)	Not visible due to intervening residential development.

Table 5.1-1
Community Plans and Identified Vistas, Scenic Views, and Public Vantage Points

Community Plan Area	Identified Public Vantage Point	Description	Nearest MWMP Project-Level Facility (proximity)	Facility Public View Assessment
			(0.55 miles west of CP public view point on 54th Street)	
			Chollas Creek – 54th Street Facility Group (54th Street Segment 1) (0.90 miles west of CP public view point on College Grove Drive near Chollas Reservoir)	Not visible due to intervening terrain and tall eucalyptus along College Grove Drive at Chollas Reservoir.
	Communitywide	Panoramic views of the mountains to the east and the bay and coastline to the west and south	Auburn Creek – Wightman Facility Group (Wightman Segment 2) (0.25 miles southeast of CP public view point on University Avenue near 49th Street)	Not visible due to intervening terrain and residential development.
Mira Mesa	Los Peñasquitos Canyon Preserve	Wherever possible, public access to the rim and view of Los Peñasquitos Canyon Preserve should be provided in the form	Los Peñasquitos Canyon Creek – Black Mountain Facility Group (Black Mountain Segment 2) (located in canyon	VISIBLE – Facility vegetation visible from sidewalk and limited visibility from Babauta Road due to intervening vegetation.

Table 5.1-1
Community Plans and Identified Vistas, Scenic Views, and Public Vantage Points

Community Plan Area	Identified Public Vantage Point	Description	Nearest MWMP Project-Level Facility (proximity)	Facility Public View Assessment
		of paths, scenic overlooks and streets	and nearest public street (Babauta Road) on canyon rim located 540 feet to the south)	
Mission Valley[1]	Communitywide	Views should be provided from public streets into the river corridor.	Murphy Canyon Creek – Stadium Facility Group (Stadium Segments 1 and 2) (parallels I-15 and I-8 on-ramps and is spanned by San Diego Mission Road and Rancho Mission Road	VISIBLE – Facility vegetation visible from I-15, on-ramps, San Diego Mission Road, and Rancho Mission Road.
	North and southbound I-15	Interstate is identified as a community entrance and foreground views through CPA encompass a View Sensitive Area	Murphy Canyon Creek – Stadium Facility Group (Stadium Segments 1 and 2) (parallel I-15)	VISIBLE – See above.
	Communitywide	Aerial views from the hillsides into the river area from public areas such as	No MWMP facilities with project-level activities in CP are visible from public hillside roads and	—

Table 5.1-1
Community Plans and Identified Vistas, Scenic Views, and Public Vantage Points

Community Plan Area	Identified Public Vantage Point	Description	Nearest MWMP Project-Level Facility (proximity)	Facility Public View Assessment
		parks and roads in surrounding communities	parks in surrounding communities	
	North and southbound SR-163	State Route is identified as a community entrance and foreground views through CPA encompass a View Sensitive Area	San Diego River – Camino del Rio Facility Group (Camino del Rio Segment 1) (0.25 miles east of SR-163)	Not visible due to intervening terrain and development.
Navajo	Communitywide	A unique feature in the Navajo Community Plan is the open space element designed to preserve the river, scenic canyon and hillside areas, and to link elements of the community.	Murray Reservoir – Cowles Mountain Group (Cowles Mountain Segment 1)	VISIBLE – Facility vegetation and access and staging areas visible in peripheral view of northbound Cowles Mountain Boulevard near Navajo Boulevard (views to Cowles Mountain available from northbound lanes).
			Murray Reservoir – Cowles Mountain Group (Cowles Mountain Segment 2)	VISIBLE – Facility vegetation and concrete channel visible from northbound Cowles Mountain Boulevard, Lake Badin Avenue, and

Table 5.1-1
Community Plans and Identified Vistas, Scenic Views, and Public Vantage Points

Community Plan Area	Identified Public Vantage Point	Description	Nearest MWMP Project-Level Facility (proximity)	Facility Public View Assessment
				Boulder Lake Avenue (views to Cowles Mountain available from northbound lanes).
Otay Mesa	Figure 4-1, Otay Mesa Gateway/View Corridor Opportunities, of the Community Plan identifies gateways and view corridors.	A Community Plan identified view corridor is located at the intersection of La Media Road and Airway Road	Tijuana River – La Media Group (La Media Segment 1)	VISIBLE – Facility vegetation visible from intersection of La Media Road and Airway Road.
Otay Mesa - Nestor	Palm Avenue Transit Center, Midway Baptist Church, and Palm Avenue	These locations are identified as view and access points to the Otay River Valley in the community plan	No MWMP facilities with project-level activities in CP are within 0.40 miles of a view and access point to the Otay River Valley	Not visible due to intervening terrain and residential development.
	Thermal Avenue and Saturn Boulevard	These roads are identified as view corridors to the San Diego Bay in the community plan	Nestor Creek – Nestor Group (Cedar Segment 2); Nestor Creek – Nestor Group (Dahlia Segment 1)	VISIBLE – The facility and vegetation are visible from the segment of Thermal Avenue that provides access to the Imperial Sands mobile home development.

Table 5.1-1
Community Plans and Identified Vistas, Scenic Views, and Public Vantage Points

Community Plan Area	Identified Public Vantage Point	Description	Nearest MWMP Project-Level Facility (proximity)	Facility Public View Assessment
				The channelized facility is visible to Saturn Boulevard motorists on the approach to Palm Avenue.
	Hollister Street	Hollister Street is a community plan identified view corridor to the Tijuana River Valley	Tijuana River – Tocayo Group (Tocayo Segment 2)	VISIBLE – The facility and vegetation (are located on both sides of Hollister Street) and are visible from the street near Tocayo Avenue.
Pacific Beach	Grand Avenue	Segments of Grand Avenue provide intermittent public view of the ocean and bay	Mission Bay – Mission Bay High School Facility Group (MBHS Segment 1)	VISIBLE – Vegetation in MBHS Segment 1 is visible from Grand Avenue at Quincy Street. Mission Bay Drive Segment 1 briefly parallels Grand Avenue at the intersection of Grand Avenue and Mission Bay Drive and is visible.
Peninsula	West Point Loma Boulevard	West Point Loma Boulevard is identified in the community plan as	San Diego River – Nimitz Group (Nimitz Segment 1)	VISIBLE – Vegetation in facility may be visible from westbound West

Table 5.1-1
Community Plans and Identified Vistas, Scenic Views, and Public Vantage Points

Community Plan Area	Identified Public Vantage Point	Description	Nearest MWMP Project-Level Facility (proximity)	Facility Public View Assessment
		view corridor providing views of the ocean, Mission Bay, and Pacific Beach		Point Loma Boulevard at Nimitz Boulevard
Rancho Bernardo	Views not identified in current community plan	—	—	—
Rancho Peñasquitos	Communitywide	Public access to canyon rims and views should be provided at suitable locations in the form of paths, scenic overlooks and streets	No MWMP facilities with project-level activities in CP are visible from paths, scenic overlooks and streets in the CP where public access to canyon rims is provided.	—
	Communitywide	Encourage retention of wildlife habitat value in connected open space systems by providing visual access where possible by overlooks	No MWMP facilities with project-level activities in CP are visible from public overlooks in the CP.	—
San Ysidro	Tijuana, Tijuana River Valley, and Pacific Ocean	The CP (page 2-14) encourages the siting of structures to preserve and enhance public vistas	As the project entails maintenance of existing facilities and does not include the	—

Table 5.1-1
Community Plans and Identified Vistas, Scenic Views, and Public Vantage Points

Community Plan Area	Identified Public Vantage Point	Description	Nearest MWMP Project-Level Facility (proximity)	Facility Public View Assessment
		and open space areas, particularly those areas with views of Tijuana, the Tijuana River Valley, and the Pacific Ocean.	siting of new structures, this general CP goal is not applicable to the project.	
Skyline – Paradise Hills	Communitywide	Views of undeveloped hillsides, canyons, and mountains toward the east, should be protected	Sweetwater River – Parkside Facility Group (Parkside Segment 1)	VISIBLE – Parkside Segment 1 runs parallels to Parkside Avenue. Vegetation and facility visible from Parkside Avenue (San Miguel Mountain visible from eastbound lane).
Southeastern San Diego	Greenwood Cemetery	The cemetery is identified on CP Figure 8-2 as offering panoramic views from west to east	South Chollas Creek – Southcrest Facility Group (Ocean View Segment 1)	VISIBLE – Vegetation in facility may be visible in southward views from Greenwood Cemetery.
Tijuana River Valley	Views not identified in current community plan	—	—	—
Torrey Pines	North Torrey Pines Road, Carmel Valley Road and Sorrento Valley Road	The community plan recommends scenic designation for the roads	Los Peñasquitos Lagoon – Industrial Facility Group (Industrial Segment 2); Los Peñasquitos Lagoon – Tripp	VISIBLE – Los Peñasquitos Lagoon – Industrial Facility Group (Industrial Segment 2) and Los Peñasquitos Lagoon – Tripp Facility

Table 5.1-1
Community Plans and Identified Vistas, Scenic Views, and Public Vantage Points

Community Plan Area	Identified Public Vantage Point	Description	Nearest MWMP Project-Level Facility (proximity)	Facility Public View Assessment
			Facility Group (Tripp Segment 1); Soledad Canyon Creek – Sorrento Facility Group (Roselle Segment 2)	Group (Tripp Segment 1) run perpendicular to Sorrento Valley Road. Soledad Canyon Creek – Sorrento Facility Group (Roselle Segment 2) is setback 100 feet from Sorrento Valley Road but in facility vegetation is visible to motorists.
Uptown	Washington Street (generally west of Goldfinch Street)	Location identified as Public View Corridor on community plan Figure 4-3, Canyons and Views, of the Community Plan	Washington Canyon Creek – Washington Group (Washington Segments 1 and 2)	VISIBLE – Vegetation in facility visible in eastward views from Washington Street.

CP = Community Plan; CPA = community planning area; I = Interstate; SR = State Route

1. The Final Draft June 2019 Mission Valley Community Plan was reviewed and no additional public vantage points were identified.
2. While MWMP facilities are not viewable from identified public vantage points, the Mid-City Communities Plan is discussed below to support the brief view assessments provided in Table 5.1-1, above.

Clairemont Mesa Community Plan

Largely defined by its prominent canyon, mesa, and hillside topography, the Clairemont Mesa community planning area encompasses one of the first post–World War II suburban developments in the City. Developed areas of the community are generally confined to the mesas and along the rim of Tecolote Canyon, Stevenson Canyon, and San Clemente Canyon, and into the hillside areas to the west. The community is accessible via major roads (including Genesee Avenue) and local neighborhood streets that traverse canyons and mesa tops. Many of the neighborhoods along the mesa rim overlook Mission Bay and the Pacific Ocean to the west, Fortuna Mountain and Cowles Mountain to the east, and the community's open space canyon system.

Tecolote Creek–Genesee Facility Group (Genesee Segment 1)

Genesee Segment 1 is densely vegetated with eucalyptus woodland, riparian forest (southern riparian forest and coast live oak), disturbed wetland, and disturbed freshwater marsh. In addition, pine trees, disturbed lands, and ornamental vegetation, including tall and relatively thin eucalyptus and palm trees, are located adjacent to the facility. While the facility itself is not visible from Genesee Avenue (the local terrain abruptly falls to the east of the road and the facility bottom is approximately 30 feet below the surface of the road), vegetation on sloped terrain within and adjacent to the facility is visible to passing motorists and pedestrians.

Public views to facility vegetation are available to motorists and pedestrians on Genesee Avenue and Boyd Avenue. According to the community plan, views to the local canyon system throughout the community are identified as scenic views.

Encanto Neighborhoods Community Plan

While the Encanto community planning area has retained much of its semi-rural, large-lot character, the seven neighborhoods that make up the Encanto community planning area are also considered largely suburban. Three-quarters of the community's housing are single-family homes, with the remainder consisting of multi-family and mobile home developments. Newer, mixed-use developments tend to be focused on the Imperial Avenue and Euclid Avenue corridors, and the planning area includes several schools and community parks in addition to several canyons. Chollas Creek is the natural drainage system that traverses Encanto neighborhoods and defines the central landform of the community.

South Chollas Creek – Federal Facility Group (Federal Segment 2)

Federal Segment 2 is a primarily concrete-lined channel paralleling SR-94 to the north and Federal Boulevard to the south. The facility is setback approximately 150 feet from Imperial Avenue and is

partially screened from view of Federal Boulevard motorists by street trees, industrial structures, and storage yards lined by vinyl tarp covered chain-link fencing. However, occasional glimpses to in-facility vegetation are visible through gaps in fencing (or open gates) and access and staging areas are proposed on previously disturbed lots adjacent to Federal Boulevard.

Kearny Mesa Community Plan

The Kearny Mesa community planning area is a major regional employment center occupying a central location within the City. Although the community planning area is dominated by industrial and commercial development along the SR-163 and SR-52 corridors, low- and high-density residential development is also present, as are open space and community parks. Montgomery Field Municipal Airport is also located with the community planning area boundary. Although most development in Kearny Mesa has taken shape on the flat mesa area, the community is part of two scenic canyon systems. Murphy Canyon at the eastern boundary of Kearny Mesa provides natural hillsides and drainage areas, and the northwest corner of the community includes a tributary of San Clemente Canyon.

Murphy Canyon Creek–Stadium Facility Group (Murphy Canyon Segment 1)

Murphy Canyon Segment 1 consists of an approximately 530-foot-long concrete facility. The primarily north–south facility is relatively narrow in width and is generally screened from public view by facility-adjacent vegetation consisting of native and non-native trees and shrubs. In addition, the facility is set back between 150 and 250 feet from the nearest visual users of the area on I-15 and is located approximately 65 feet lower in elevation than the southbound travel lanes of I-15. Both setbacks and the lower elevation of the facility in relation to I-15 limit the availability of public views to the facility. However, project-level activities may result in the removal of vegetation that is briefly visible in the periphery of southbound I-15 motorists as they approach the Kinder Morgan petroleum facility.

La Jolla Community Plan

The La Jolla community planning area includes rugged coastline of ocean bluffs and beaches, the lower-lying village area, and variable terrain, including steep canyons and hillsides located to the west of I-5. While commercial, office, park, and hotel development is located within the community plan area, single- and multi-family residential development is the dominant use. The *La Jolla Community Plan* identifies views to and from Mount Soledad and views of the shoreline as the primary visual resources within the community.

Torrey Pines – Torrey Facility Group (Torrey Pines Segment 1)

Torrey Pines Segment 1 is located immediately east of Torrey Pines Road at Pottery Park Drive and is situated in a narrow canyon and between mesas to the north and south. The facility and adjacent tall eucalyptus trees are located east of Torrey Pines Road and do not affect westward views from Torrey Pines Road toward the coast that are identified as scenic views in the community plan. However, where the facility is visible at and near Pottery Park Drive, the presence of a mesa west of Torrey Pines Road effectively blocks the coast from view of north and southbound Torrey Pines Roads motorists. As noted in Table 5.1-1, the facility is also located adjacent to and within the boundary of the City's Pottery Canyon Natural Park. Accessible via Pottery Canyon Park Drive, the open space park is described in the *La Jolla Community Plan* as providing a "scenic overlook looking west towards the coast" (City of San Diego 2014a). However, the park user experience currently functions more as a short (i.e., approximately 0.5-mile round trip) hiking trail through a eucalyptus grove that climbs approximately 40 feet in elevation but does not offer views extending to the coast due to intervening mesa terrain located west of Torrey Pines Road.

Lastly, the eastern portion of the Torrey Pines Segment 1 footprint is located approximately 640 feet west of La Jolla Scenic Drive near Caminito Bello. Despite this proximity, the nearby segment of La Jolla Scenic Drive is located atop a mesa and the surface of the road is approximately 145 feet higher in elevation than the bottom of the canyon where the facility is located. While the ocean is visible from La Jolla Canyon Scenic Drive, the presence of gradually descending terrain and intervening shrubs and vegetation west of the road blocks the facility and most adjacent vegetation from view. Where visible, the crowns of tall eucalyptus trees are located low in westward views and are not located in line with the Pacific Ocean.

Mid-City Communities Plan

Mid-City is a cluster of four communities: Normal Heights, Kensington-Talmadge, City Heights, and Eastern, each with its own distinctive character. The community is primarily residential with a mix of housing types and commercial development along transportation corridors. The central portion of the community is a flatter mesa extending east toward urbanized rolling hillsides and natural canyon systems to the north and south. Canyons in the eastern portion of the community feed into the Chollas Valley system, which bisects the area from northeast to southwest.

Several MWMP facilities where project-level activities would occur are located in canyons and creeks within the neighborhoods of Kensington-Talmadge, City Heights, and the Eastern area.

In Kensington-Talmadge, project-level facilities are concentrated in Norfolk Canyon, a primarily north-south system with several east-west extensions that is surrounded by higher elevation mesas developed with single-family residences. The Norfolk Canyon Creek – Fairmount Facility Group

generally parallels Fairmount Avenue through the canyon and the Fairmount segments (typically marked by dense vegetation, including exotics such as palm trees) are generally located between 5 and 20 feet lower in elevation than the road, reducing their visibility from Fairmont Avenue. In addition and as described in Table 5.1-1, MWMP project-level facilities are not significantly visible from public vantage points identified on page 66 of the *Mid-City Communities Plan*, since most vantage points are from developed areas within the mesa tops above the canyon or from public streets in urbanized areas.

In the City Heights neighborhood, project-level activities are proposed in MWMP facilities located in Auburn Creek near community plan identified public view points. Wightman Segment 1 is situated between three-story multistory residential development to the north and south and runs perpendicular to University Avenue. Supporting tall trees and shrubs including mature cottonwoods, the segment is located approximately 20 feet lower in elevation than University Avenue. Located approximately 0.25 miles east of the nearest University Avenue public vantage point identified in the community plan, the segment is not visible in the eastward view which is occasionally long and extends to distant mountains. The Auburn Creek – Home Facility Group is generally located in southern City Heights and Home segments (with the exception of Segment 1) are typically setback up to 150 feet from Home Avenue. With the exception of Home Segment 1 that parallels to Home Avenue and is partially obscured by tall cottonwood street trees, the Home segments have limited visibility from Home Avenue. In addition, the Home segments are not visible from the public vantage points identified in the community plan including on Home Avenue between 46th and 45th Street due to intervening terrain and development and street trees along the corridor. Further, the nearest community plan identified public vantage points nearest to Home Segments 1 and 2 appear to be located on private property.

In the Eastern Area, MWMP facilities include several segments of Chollas Creek in Rolando and in the central and southwestern areas of the community. In Rolando, Chollas Creek-Rolando Facility Group (Cartagena Segment 1) has limited visibility and is setback 220 feet or more from University Avenue and is blocked from view of motorists by intervening retail commercial and strip mall development. In addition, no public vantage points are identified on University Avenue or other local roads in the surrounding area. Chollas Creek – 54th Street Facility Group (54th Street Segment 1) is situated in a small canyon surrounded by private residences and is not visible to the public. The nearest identified public vantage point, College Grove Drive near the Chollas Lake Park playground, is nearly 1 mile away to the east. While the vantage point provides views to nearby eucalyptus groves and open space, 54th Street Segment 1 (and vegetation) is not visible from this location. Lastly, Chollas Creek – Megan Facility Group (Megan Segment 2) has limited public visibility (brief views to dense pepper trees adjacent to the facility are available on the east from Euclid Drive) but the facility is situated between private residential development to the north, south, and west. In addition, the nearest public vantage point identified in the community plan, 54th Street near Pirotte Drive, is

approximately 0.55 miles to the east and westward views to the facility are blocked by intervening residential development.

Mira Mesa Community Plan

The Mira Mesa community planning area is a topographically diverse system of large canyons and mesas overlooking Los Peñasquitos Canyon Preserve on its northern boundary. The community is mostly built-out and primarily developed with residential and commercial uses in the north and east, and industrial and office uses in the west and south. The community plan identifies the five major canyons in the community for preservation as open space.

Carrol Canyon Creek – Carroll Facility Group (Carroll Canyon Segment 1)

Situated in the southwestern portion of the community north and south of Carroll Canyon Road near El Camino Memorial Park Cemetery, the facility is visible from the road and the nearby parking lot of a golf range. North of Carroll Canyon Road, the facility is approximately 5 feet lower in elevation than the road (south of the road the facility is 15 feet lower in elevation). Vegetation (trees and shrubs) within and adjacent to the facility are visible to motorists and visitors to the golf range.

Los Peñasquitos Preserve Master Plan

The Los Peñasquitos Canyon Preserve is located in the City between I-5 and I-15, approximately 12 miles north from the City's center. Perennial streams and steep slopes rising from flat, densely vegetated canyon bottoms characterize the Los Peñasquitos Canyon and its tributary Lopez Canyon. The master plan includes a *Long-Range Management Plan* (City of San Diego and County of San Diego 1998).

Los Peñasquitos Canyon Creek–Black Mountain Facility Group (Black Mountain Segment 2)

The southern approximately 40-foot-long segment of Black Mountain Segment 2 is located east of Black Mountain Road, adjacent to the western boundary of Canyonside Ranch/stables, and parallels the earthen Los Peñasquitos Canyon Trail. The segment is located within Los Peñasquitos Canyon Preserve, a public regional park. The drainage area is densely vegetated and tends to be dominated by tall trees and shrubs. Existing vegetation within and adjacent to the facility is generally visible to motorists, pedestrians, and cyclists on Black Mountain Road and Mercy Road (the segment runs perpendicular to Mercy Road). Views to the facility are also available to recreational trail users on a nearby segment of the Los Peñasquitos Canyon Preserve trail system and users within the public parking lot and staging area located at Black Mountain Road and Mercy Road. Limited views to the facility are also available from nearby Babauta Road, a public road that briefly parallels the rim of Los Peñasquitos Canyon and provides views of the Preserve. The nearest public overlook, the

pedestrian path at Camino Ruiz Neighborhood Park, is located 1.1 miles to the west and Black Segment 2 is obscured by distance and canyon vegetation.

Mission Valley Community Plan

Mission Valley is a significant regional landform formed by the erosive action of the San Diego River upon the coastal mesa region. The valley's topography is that of a wide, flat floodplain surrounded by steep slopes and mesas to the north and south. The Mission Valley community planning area is within the San Diego River floodplain and is generally bounded by Friars Road and the northern slopes of Mission Valley on the north, the eastern banks of the San Diego River on the east, the southern slopes of the valley on the south, and I-5 on the west. The community is a regional center of office, hotels, retail, and primarily multi-family residential developments.

Murphy Canyon Creek–Stadium Facility Group (Stadium Segments 1 and 2)

Stadium Segment 1 is an approximately 1,770-foot-long, earthen-bottom segment that runs north from the San Diego River between Qualcomm Way and I-15 (more specifically, the eastbound I-8 and southbound I-15 on-ramps) toward San Diego Mission Road. Near San Diego Mission Road, the earthen-bottom segment narrows and adjoins Stadium Segment 2, an approximately 200-foot-long concrete facility. Views to the segments are available to motorists on the adjacent I-15 southbound on-ramp (located east of the facility) and Qualcomm Way (located to the west of the facility). San Diego Mission Road runs perpendicular to and spans the facility. Therefore, short-duration, southerly oriented views to the facility are available to eastbound and westbound San Diego Mission Road motorists.

Existing vegetation communities in the earthen segment of the facility (i.e., Stadium Segment 1) consists of disturbed wetland (*Arundo*-dominated) and riparian forest (southern willow forest). A relatively dense assemblage of tightly spaced shrubs and trees of moderate height and spread bordered by limited occurrences of nearby tall and thin palm trees characterize existing views of the facility. A cluster of tall and spreading trees is planted adjacent to the facility and near the confluence of Stadium Segments 1 and 2. The eastern bank of the facility is lined by low (approximately 2 feet high) and mounded grass-like vegetation. Existing vegetation in the facility is visible from San Diego Mission Road, I-8 on-ramps, and the I-15 corridor.

Navajo Community Plan

The Navajo community planning area is located in the easterly portion of the City adjacent to Mission Trails Regional Park and includes the community areas of Allied Gardens, Del Cerro, Grantville, and San Carlos. A wide variety of land uses are represented within the Navajo community planning area, including detached and attached residential in Allied Gardens, and commercial and light industrial

centers in Grantville situated along both sides of Mission Gorge Road. The central and eastern portions of Navajo are primarily residential. Pockets of neighborhood- and community-serving commercial occur at the intersections of major transportation corridors throughout the community.

Murray Reservoir – Cowles Mountain Facility Group (Cowles Mountain Segment 1 and 2)

Project-level activities would also occur in the Murray Reservoir – Cowles Mountain Facility Group which is generally located in the eastern portion of the community planning area and southeast of Cowles Mountain. Views to Cowles Mountain and other scenic hillside areas are considered scenic for purposes of this analysis. However, due to their location in residential neighborhoods, Cowles Mountain Segments 1 and 2 have limited public visibility. For example, Segment 1 is primarily situated between residential development located east of Cowles Mountain Boulevard and the majority of the facility is not visible from the roadway due to intervening residences. However, on the approach to Navajo Road, facility vegetation and the access and staging areas would be within the peripheral view of northbound Cowles Mountain Boulevard motorists. A prominent topographical feature in the community planning area, the summit of Cowles Mountain is approximately 0.75 miles to the northwest of motorists at the Cowles Mountain Boulevard/Navajo Road intersection and dominates views of northbound motorists at the intersection.

Segment 2 is non-continuous and is bisected by Cowles Mountain Boulevard and Lake Badin Avenue. Further, the portions of the segment are situated on a golf course (west of Cowles Mountain Boulevard), between residential development (between Cowles Mountain Boulevard and Lake Badin Avenue) and residential development and a private K-12 school (i.e., Springall Academy; between Lake Badin Avenue and Boulder Lake Avenue). The short, approximately 200-foot-long portion of Segment 2 located on the Mission Trails Golf Course is blocked from view of motorists on Cowles Mountain Boulevard and Navajo Road by residences and landscaping. East of Cowles Mountain Boulevard, the remaining portions of the facility, vegetation, and access and staging areas are briefly visible in the peripheral view of motorists, pedestrians, and cyclists on Cowles Mountain Boulevard, Lake Badin Avenue, and Boulder Lake Avenue. In addition, Cowles Mountain is generally visible (albeit partially obscured) from the northbound lanes of these roads where Segment 2 is aligned perpendicular to Cowles Mountain Boulevard, Lake Badin Avenue, and Boulder Lake Avenue.

Otay Mesa Community Plan

The Otay Mesa community planning area is defined by broad, flat topography and other major features, including Otay Valley Regional Park to the north, the County of San Diego to the east, the U.S./Mexico border to the south, and the canyon and mesa systems to the west. The Otay Mesa Community Plan consists of single-family residential neighborhoods in the northwest (i.e., north of SR-905), Brown Field (a

general aviation airport) and industrial development in the northeast, industrial warehouse and office facilities in the southeast, and undeveloped canyon terrain in the southwest.

Tijuana River – La Media Facility Group (La Media Segment 1) La Media Segment 1 is located near the northwestern corner of the intersection of La Media Road and Airway Road. As noted in Table 5.1-1, the intersection of La Media Road and Airway Road is a community plan identified view corridor. Existing northwestward views from the intersection looks a primarily vacant and undeveloped property to several buildings in the distance. Views to the northeast and east are much more scenic and include Otay Mountain and other peaks in the rugged San Ysidro Mountains. As viewed from nearby roads, j-shaped La Media Segment 1 is primarily marked by clusters of mulefat shrubs and dense groupings of spiny rush. From eastbound Airway Road, existing vegetation in the facility briefly obscures a segment of the distant San Yisdro Mountains from view however, at the intersection of La Media Road and Airway Road, the mountains are visible and facility vegetation is outside of the normal field of vision of eastbound motorists.

Otay Mesa-Nestor Community Plan

Defined by the Otay River and Tijuana River valleys on the north and south, the Otay Mesa-Nestor community planning area is an urbanized community, with the majority of the planning area developed residentially. In addition, the planning area consists of schools, parks, transit, and other public facilities; vacant, undeveloped, agricultural, and mineral extraction and processing uses; and limited commercial and industrial businesses.

Nestor Creek – Nestor Facility Group (Cedar Segment 2 and Dahlia Segment 1)

Cedar Segment 2 is a curved, concrete lined facility that abuts a motel and mobile home development to east/west and north/south. The segment has limited visibility from Palm Avenue but views are available from the portion of Thermal Avenue (a community plan identified view corridor to the San Diego Bay) that functions as driveway to the mobile home development (i.e., Imperial Sands). Views consist of low grasses and shrubs and the concrete lined facility which is surrounded by chain-link fence. Due to the presence of landscaping and intervening development, views to the San Diego Bay are not available from the segment of Thermal Avenue that parallels Cedar Segment 2.

Aligned between Saturn Boulevard on the east and 18th Street on the west, Dahlia Segment 1 is a concrete lined facility located approximately 12 feet lower in elevation than adjacent commercial and residential land uses. As viewed from Saturn Boulevard (a community plan identified view corridor to the San Diego Bay), the facility is devoid of vegetation and is characterized as a developed, concrete flood-control facility lacking particularly memorable scenic qualities. The facility is also surrounded by

chain-link fencing and where the facility is perpendicular to Saturn Boulevard, intervening development along Palm Avenue entirely blocks the San Diego Bay from view of northbound motorists.

Tijuana River – Tocayo Facility Group (Tocayo Segment 2)

Bisected by Hollister Street, Tocayo Segment 2 is an east-west concrete lined facility abutting single-family residential land uses to the south and Tocayo Avenue sidewalks to the north. Vegetation within the facility and on the top of bank is visible from the sidewalk and from Hollister Street (a community plan identified view corridor to the Tijuana River Valley). While the concrete lined walls and vegetation of Tocayo Segment 2 are visible to southbound Hollister Street motorists as they move through the Hollister Street/Tocayo Avenue intersection, the Tijuana River Valley (and in-valley features including vegetation) is obscured by distance. Further, as the facility is located in the foreground of southward views through the intersection and is bordered on the south by two-story residential development, the southward view is not currently obstructed by the facility or in-facility vegetation.

Pacific Beach Community Plan

Primarily composed of residential development, the Pacific Beach community planning area is physically identified by its proximity to water, both the coastal bluffs and beaches of the Pacific Ocean and the beaches of Mission Bay to the south. The coastal plain that encompasses the majority of Pacific Beach rises to steep hillsides to the north, bordering the La Jolla community planning area.

Mission Bay–Mission Bay High School Facility Group (MBHS Segment)

MBHS Segment 1 follows a north–south alignment, generally from just west of the MBHS tennis courts south toward North Mission Bay Drive/Pacific Beach Drive. The facility is installed between the MBHS campus on the east and single-family residences on Ladd Drive to the west. A chain-link fence lines a majority of the facility. Moderately high (3–4 feet) grass-like plants, low shrubs, spreading ground cover, and occasional randomly spaced palm trees and other ornamental trees cover the western bank of the segment. Taller vegetation on the western bank, and private backyard fencing of Ladd Street residences, screens the facility from adjacent residential properties. The segment is setback approximately 235 feet from Grand Avenue but vegetation is briefly visible as motorists pass Quincy Street. However, as the community plan specifically identifies only the western and central segments of Grand Avenue offering intermittent public views of the ocean and bay as view corridors, views from the easterly segment of Grand Avenue at Quincy Street toward MBHS Segment 1 are not considered to be from an identified view corridor.

Mission Bay–Mission Bay Drive Facility Group (Mission Bay Drive Segment 1)

The Mission Bay-Mission Bay Drive facility (also referred to as Mission Bay Drive Segment 1) parallels southbound Grand Avenue and Mission Bay Drive in the Mission Bay Park area. The Mission Bay Golf Course and Practice Center abuts the facility on the west. A rusted 5-foot-high chain-link fence separates the facility from an adjacent sidewalk paralleling Grand Avenue and Mission Bay Drive. Existing vegetation in the facility fluctuates between pockets of dense and tall trees and shrubs and expanses of lower grasses. In addition to recreationists, motorists, and pedestrians, views to the facility and adjacent golf course and practice center are available to customers of nearby commercial business and a Mission Bay Drive motel.

Views to Mission Bay are not available from the segment of Grand Avenue/Mission Bay Drive that parallels the Mission Bay Drive Segment 1. Also, as identified above for MBHS Segment 1, the community plan specifically identifies the western and central segments of Grand Avenue offering intermittent public views of the ocean and bay as view corridors. Therefore, views from the easterly segment of Grand Avenue near Mission Bay Drive Segment 1 are not considered to be from an identified view corridor.

Peninsula Community Plan

The Peninsula community planning area is generally bounded by the Pacific Ocean on the west and south, the San Diego River channel on the north, and San Diego Bay and Port of San Diego tidelands on the east. The planning area includes Point Loma, a major geographic feature of San Diego's coastline formed by a longitudinal hill projecting into the Pacific Ocean from the north end of San Diego Bay**.** Peninsula is a highly urbanized community composed of a number of relatively distinct residential neighborhoods. In addition to these residential areas, the Peninsula contains a well-developed commercial core, a liberal arts college, and three major regional recreational resources: Sunset Cliffs, Shelter Island and Cabrillo National Monument.

San Diego River – Nimitz Boulevard Facility Group (Nimitz Segment 1)

South of West Point Loma Boulevard, Nimitz Segment 1 generally parallels the northbound lane of Nimitz Boulevard. While primarily obscured from view of motorists by landscaping and intervening residential development, in facility vegetation may be briefly visible to eastbound motorists as they approach and pass through the West Point Loma Boulevard/Nimitz Boulevard intersection. However, it should be noted that the valued view from this particular segment of West Point Loma Boulevard is generally to the north and west toward the Pacific Ocean, Mission Bay, and Pacific Beach. None of these features is specifically visible to motorists at the West Point Loma Boulevard/Nimitz Boulevard intersection (intervening topography and development block the features from view) and because the

southward view at this location does not extend to downtown San Diego, the particular segment of West Point Loma Boulevard does not provide a scenic view corridor.

Skyline – Paradise Hills Community Plan

Composed of the neighborhoods of Skyline, Paradise Hills, South Bay Terraces, North Bay Terraces, Lomita, and Jamacha, the Skyline – Paradise Hills community planning area is predominantly a low-density single-family residential community and features several small, scattered neighborhood commercial centers. Hills and canyons throughout the community provide opportunities for views of downtown San Diego, San Diego Bay, the City of Coronado and the Pacific Ocean. A major geographic feature of the community is Paradise Valley, which runs on an east–west axis through the middle of the community.

Sweetwater River – Parkside Facility Group (Parkside Segment 1)

Surrounded by developed land uses, Parkside Segment 1 parallels Parkside Avenue and is located at the bottom of a steep, landscaped sloped. The approximately 1,200-foot long concrete lined segment is relatively narrow and features scattered clusters of shrubs. From approximately Beatrice Drive to the eastern extent of the facility (a distance of approximately 1,000 feet), eastbound motorists are provided views to the facility and the summit of San Miguel Mountain which is located over 6.5 miles away.

Southeastern San Diego Community PlanSoutheastern San Diego is a large urbanized community located adjacent to downtown San Diego. The community includes the primarily residential neighborhoods of Sherman Heights, Logan Heights, Grant Hill, Memorial, Stockton, Mount Hope, Mountain View, Southcrest, and Shelltown. Commercial parks and recreation uses, and limited industrial development mark the community's neighborhoods.

South Chollas Creek – Southcrest Facility Group (Ocean View Segment 1)

Public views to Ocean View Segment 1 are limited and generally available to motorists and pedestrians on National Avenue and Ocean View Boulevard (the segment is spanned by both roads). From these roadways, the concrete walls and bottom of the facility are visible and prominent and detectable vegetation consists of a low line of marsh shrubs that fluctuates between narrow and wide scattered *Arundo* shrubs, and short fan palm trees. North of Ocean View Boulevard, vegetation is generally absent from the facility and instead, a curving concrete bottom bordered by tall concrete walls displaying graffiti and topped with 6-foot-high chain-link fence marks the facility. The northernmost reach of Ocean View Segment 1 is paralleled by narrow dirt trails situated atop the northern and southern facility banks. This reach of the segment features limited vegetation and is characterized by a wide concrete bottom and steep concrete walls.

While unlikely, vegetation within Ocean View Segment 1 may be visible from the various paths and roads within Greenwood Memorial Park and Mortuary ("Greenwood Cemetery"). However, activities occurring within the segment would be located approximately 0.20 miles from the cemetery and the presence of intervening landscaping and urban development including multistory structures in the Imperial Marketplace limits the availability of clear views to Ocean View Segment 1 from the Greenwood Cemetery. The Greenwood Cemetery is identified in the Southeastern San Diego community plan as providing scenic southward public views.

Torrey Pines Community Plan

The Torrey Pines community planning area parallels segments of I-805 and I-5 from approximately Carroll Canyon north to the San Dieguito River valley and contains a number of major local and regional open space systems associated with the watersheds of Los Peñasquitos and San Dieguito Lagoons. Residential and commercial development is concentrated in the northern portion of the community plan area (i.e., north of Carmel Valley Road). The remaining land area consists of San Dieguito Lagoon, Los Peñasquitos Lagoon, Peñasquitos Creek, and adjacent lowlands, the western extent of Los Peñasquitos Canyon, and industrial development flanking Sorrento Valley Road and Sorrento Valley Boulevard.

Los Peñasquitos Lagoon – Industrial Facility Group (Industrial Segment 2)

Industrial Segment 2 is located east of Sorrento Valley Road and on a narrow (i.e., approximately 25 feet wide) swath of land located south of Carmel Mountain Road to the north and Industrial Court to the south. The channel abuts a development property to the north that currently features several one- to two-story businesses, paved parking lots and landscaping. As viewed from Sorrento Valley Road, the narrow, concrete lined channel is marked by tall riparian shrubs and trees. The concrete walls of the channel itself are not currently visible in the brief, easterly view available from Sorrento Valley Road. Lastly, it should be noted the easterly available views from Sorrento Valley Road toward Industrial Segment 2 include nearby businesses on the property to the north, a large retaining wall paralleling I-5 and ridgetop apartment buildings located east of I-5.

Los Peñasquitos Lagoon – Tripp Facility Group (Tripp Segment 1)

Similar to Industrial Segment 2, Tripp Segment 1 is located east of Sorrento Valley Road and is situated between developed properties to the north and south. As viewed from Sorrento Valley Road, the visible western portion of the concrete lined channel is marked by low shrubs. Given the proximity of existing development uses including parking lots, the I-5 retaining walls, and ridgetop atop buildings located east of I-5, the brief easterly available view toward Tripp Segment 1 from Sorrento Valley Road is not particularly scenic.

Soledad Canyon Creek – Sorrento Facility Group (Roselle Segment 1 and 2)

Roselle Segment 1 parallels a rail corridor and Sorrento Valley Road near the North County Transit District (NCTD) Sorrento Valley station. The earthen-bottom segment is densely vegetated with riparian forest (southern willow forest), riparian scrub (southern willow scrub), and freshwater marsh plant communities and ornamental vegetation. Views to the facility vegetation are available to motorists, pedestrians, and cyclists on Sorrento Valley Road however; railroad facilities including the Sorrento Valley station block the concrete walls of the channel from view. In addition, views are available to NCTD Coaster and AMTRAK riders as they approach and leave the Sorrento Valley station.

Paralleling Sorrento Valley Road and existing railroad tracks, Roselle Segment 2 is relatively wide (approximately 80 feet) channel with connectivity to Soledad Canyon Creek. Setback approximately 100 feet from Sorrento Valley Road, visibility to the facility is generally limited to mature trees that occasionally dot the channel. In addition, railroad infrastructure and features including the NCTD Sorrento Valley station, a small parking lot, landscaping, and the elevated rail corridor obscure views to Roselle Segment 2 from Sorrento Valley Road.

Uptown Community Plan

The Uptown community planning area is bounded on the north by the steep hillsides of Mission Valley, on the east by Park Boulevard and Balboa Park, and on the west and south by Old Town San Diego and I-5. The community's topography generally consists of a level mesa that is segmented by canyons and borders Balboa and Presidio Parks. The local canyon systems help define the community's urban form and offer opportunities for scenic views of Balboa Park, Mission Bay, San Diego Bay, and Mission Valley. The community is developed with a wide range of housing types within a distinctly urban setting. The street system and building lot developments were established as part of pre-automobile subdivision planning, and the community is well-served by transit along major corridors.

Washington Canyon Creek – Washington Group (Washington Segments 1 and 2)

Washington Canyon Creek – Washington (Washington Segments 1 and 2) parallel Washington Street from approximately University Avenue to Columbia Street, and this road segment is identified as a scenic view corridor offering views to the bluffs of the Point Loma peninsula, San Diego Bay, and the Pacific Ocean. Due to being located at a lower elevation relative to Washington Street, Washington Segments 1 and 2 are generally obscured from view of westbound motorists. Tall eucalyptus trees adjacent to the Washington channel regularly block the Point Loma peninsula from view.

5.1.3 REGULATORY SETTING

Federal

Federal Highway Administration's Visual Impact Assessment for Highway Projects

Although the Federal Highway Administration is not a responsible agency for the MWMP and the MWMP does not involve highway construction, the Federal Highway Administration's Visual Impact Assessment for Highway Projects methodology was reviewed and considered during preparation of the Environmental Impact Report. The methodology employed in the preparation of this Environmental Impact Report as it relates to aesthetics/visual effects and neighborhood character was partially based on the Visual Impact Assessment for Highway Projects process of establishment, inventory, analysis, and mitigation (FHWA 2016). The primary purpose of the establishment phase is to define/establish the study area of the analysis. The purpose of the inventory phase is to examine existing visual quality and character of terrain, vegetation, and human-made development/structures. During the analysis phase, impacts are evaluated, and mitigation and enhancement efforts to be included in the project design are addressed in the mitigation phase (FHWA 2016).

State

Caltrans Scenic Highway Program

The California Scenic Highway Program was created in 1963 with the intent to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. The state laws that govern the Scenic Highway Program are Sections 260 through 263 of the Streets and Highways Code. Highways that are eligible for state scenic designation consist of those listed in Section 263 of the Streets and Highways Code. If a highway is not listed in Section 263 of the Streets and Highway Code, it is the responsibility of local jurisdictions to apply for scenic highway eligibility and additions to Section 263 are made through legislative action (Caltrans 2008). The Scenic Highway Program includes both officially designated scenic highways and highways that are eligible for designation. A highway may be designated as scenic based upon aesthetic quality of viewable landscape, extent of views upon the natural landscape, and the degree to which development impedes these views.

There are five officially designated state scenic highways in San Diego County (Caltrans 2017):

- SR-52 (from near Santo Road to near Mast Boulevard adjacent to Mission Trails Regional Park)
- SR-75 (from Imperial Beach city limits to Avenida del Sol in Coronado and the San Diego–Coronado Bridge)

- SR-78 (from the western boundary of Anza-Borrego Desert State Park to the eastern park boundary)
- SR-125 (from SR-94 near Spring Valley to I-8 near La Mesa)
- SR-163 (from southern boundary of Balboa Park to the northern boundary)

None of the officially designated state scenic highway segments listed above are within 0.5 miles of a MWMP facility.

Local

City of San Diego General Plan

The City's General Plan was unanimously adopted by the City Council on March 10, 2008, and was subsequently amended in 2010, 2012, and 2016. The General Plan builds upon many of the goals and strategies of the previously adopted 1979 General Plan, in addition to offering new policy direction in the areas of urban form, neighborhood character, and conservation. It recognizes and explains the role of the community-planning program as the mechanism to designate land uses, identify site-specific recommendations, and refine citywide policies as needed.

Urban Design Element

The purpose of this element is to guide physical development toward a desired scale and character that is consistent with the social, economic, and aesthetic values of the City. According to the Urban Design Element, "San Diego's distinctive character results from its unparalleled natural setting, including beaches, bays, hills, canyons and mesas that allow the evolution of geographically distinct neighborhoods" (City of San Diego 2008).

The policies of the Urban Design Element listed herein relate to grading and proximity to natural features, and as such, are relevant to aboveground facilities/structures proposed by the MWMP when located in or adjacent to natural features (City of San Diego 2008):

- **Policy UD-A.1:** Preserve and protect natural landforms and features.
    - a. Protect the integrity of community plan designated open spaces (see also Conservation Element, Policy CE-B.1).
- **Policy UD-A.3**: Design development adjacent to natural features in a sensitive manner to highlight and complement the natural environment in areas designated for development.
    - Integrate development on hillside parcels with the natural environment to preserve and enhance views, and protect areas of unique topography.

- Minimize grading to maintain the natural topography, while contouring any landform alterations to blend into the natural terrain.
- Screen development adjacent to natural features as appropriate so that development does not appear visually intrusive, or interfere with the experience within the open space system. The provision of enhanced landscaping adjacent to natural features could be used to soften the appearance of or buffer development from the natural features.
- Use building and landscape materials that blend with and do not create visual or other conflicts with the natural environment in instances where new buildings abut natural areas. This guideline must be balanced with a need to clear natural vegetation for fire protection to ensure public safety in some areas.
- Ensure that the visibility of new development from natural features and open space areas is minimized to preserve the landforms and ridgelines that provide a natural backdrop to the open space systems. For example, development should not be visible from canyon trails at the point the trail is located nearest to proposed development. Lines-of-sight from trails or the open space system could be used to determine compliance with this policy.
- Protect views from public roadways and parklands to natural canyons, resource areas, and scenic vistas.

City of San Diego General Plan – Community Plans

As stated above and also in Section 5.8, Land Use, of this Environmental Impact Report, MWMP facilities are located throughout the City, and there are 11 community plans that are relevant to the MWMP. Together with the General Plan, community plans work to guide growth and development in San Diego. A discussion of specific community plans applicable to MWMP facilities is also included in Section 5.8. Refer to Section 5.8.3 for an overview of community plans that are relevant to the MWMP.

San Diego Municipal Code Landscape Regulations

Landscape regulations are established in Chapter 14, Article 2, Division 4 (Landscape Regulations), of the San Diego Municipal Code. The purpose of the City's regulations is to, among others, "minimize the erosion of slopes and disturbed lands through revegetation" and "improve the appearance of the built environment by increasing the quality and quantity of landscaping visible from public rights-of-way, private streets, and adjacent properties, with the emphasis on landscaping as viewed from public rights-of-way" (City of San Diego 2017). The landscape regulations apply to all proposed planting and irrigation and the various development proposals described in San Diego Municipal Code's Table 142-04A, Landscape Regulations Applicability. Maintenance of drainage facilities is not listed as an applicable development proposal and the landscape regulations tend to focus on the provision of new landscaping

and irrigation as opposed to the maintenance and/or removal of existing vegetation. However, Section 142.0403 broadly discusses brush management and establishes that "all existing, invasive plant species, including vegetative parts and root systems, shall be completely removed from the premises when the combination of species type, location, and surrounding environmental conditions provides a means for the species to invade other areas of native plant material that are on or off of the premises" (City of San Diego 2017, Section 142.0403 (b)(2)). In addition, and in accordance with the San Diego Municipal Code, all pruning of vegetation shall comply with National Arborist Association standards (City of San Diego 2017, Section 142.0403(b)(7)).

5.1.4 THRESHOLDS OF SIGNIFICANCE

The City's *California Environmental Quality Act Significance Determination Thresholds* (City of San Diego 2016) and Appendix G of the CEQA Guidelines contain significance guidelines related to aesthetics. The following questions are adapted from the City's Significance Thresholds, and provide guidance to determine potential significance for aesthetics/visual effects and neighborhood character:

Issue 1: Would the project result in a substantial obstruction in any vista or scenic view from a public viewing area as identified in the community plan?

Issue 2: Would the project result in a negative aesthetic site or result in substantial alteration to the existing or planned character of the area, such as could occur with the construction of a subdivision in a previously undeveloped area?

Issue 3: Would the project result in bulk, scale, materials, or style which would be incompatible with surrounding development?

Issue 4: Would the project result in the loss of any distinctive or landmark tree(s), or stand of mature trees as identified in a community plan?

Issue 5: Would the project result in a substantial change to the existing landform or natural topography or other ground surface relief features through landform alteration?

5.1.5 IMPACTS

As described in Chapter 4, Project Description, the MWMP includes a description of maintenance and repair activities, as well as supporting implementation methods. The majority of these activities are routine and are anticipated to occur in conformance with specific FMPs included in the MWMP (Appendix A). Routine refers to typical activities that occur on a regular, ongoing basis and are associated with maintaining storm water infrastructure. However, additional activities not identified in an FMP may be required and may occur anywhere within the City's storm water conveyance system.

Potential site-specific impacts associated with implementation of MWMP activities and methods as identified in the FMPs are described below under the "Project-Level Analysis (FMPs)" heading for each of the issues identified above. As further detailed in Chapter 4, Project Description, MWMP activities consist of maintenance and repair activities. Maintenance activities include vegetation and invasive plant species management, sediment/debris removal, structural/debris/trash-fence clearing, and culvert clearing. Repair activities include concrete (minor and major) and bank repair, and structural/debris/trash-fence repair.

Potential impacts associated with implementation of additional MWMP activities and methods (e.g., minor maintenance, changed conditions/new or substantially amendment FMPs, compensatory mitigation sites, and emergency maintenance) are identified under Section 5.1.6, Program-Level Analysis (Other MWMP Activities). These impacts are analyzed to the extent feasible at this time; however, additional project-level CEQA analysis and/or new or amended permits may be required prior to implementation.

Lastly, neither CEQA nor the City specifically protects private views. Therefore, if the aesthetic impacts of MWMP activities would be experienced solely from private viewing locations, then impacts would not be significant.

Issue 1: Would the project result in a substantial obstruction in any vista or scenic view from a public viewing area as identified in the community plan*?*

Project-Level Analysis (FMPs)

Scenic resources and views identified in local community plans are identified in Table 5.1-1. MWMP facility proximity to identified vistas, scenic views, and public vantage points is described in Section 5.1.2.2, Community Plan Areas and are shown on Figures 5.1-1a through 5.1-1c. The following MWMP facilities may be visible from designated vistas, scenic views, and public vantage points in the General Plan and/or Community Plans:

- Tecolote Creek–Genesee Facility Group (Genesee Segment 1) (Clairemont Mesa Community Plan)
- South Chollas Creek – Federal Facility Group (Federal Segment 1) (Encanto Neighborhoods Community Plan)
- Murphy Canyon Creek – Stadium Facility Group (Murphy Canyon Segment 1) (Kearney Mesa Community Plan)
- Torrey Pines – Torrey Facility Group (Torrey Pines Segment 1) (Torrey Pines Community Plan)
- Carrol Canyon Creek – Carroll Facility Group (Carroll Canyon Segment 1) (Mira Mesa Community Plan)

- Los Peñasquitos Canyon Creek – Black Mountain Facility Group (Black Mountain Segment 2) (Los Peñasquitos Preserve Master Plan)
- Murphy Canyon Creek – Stadium Facility Group (Stadium Segments 1 and 2) (Mission Valley Community Plan)
- Murray Reservoir – Cowles Mountain Group (Cowles Mountain Segment 1) (Navajo Community Plan)
- Murray Reservoir – Cowles Mountain Group (Cowles Mountain Segment 2) (Navajo Community Plan)
- Tijuana River – La Media Group (La Media Segment 1) (Otay Mesa Community Plan)
- Nestor Creek – Nestor Group (Cedar Segment 2); Nestor Creek – Nestor Group (Dahlia Segment 1); Tijuana River – Tocayo Group (Tocayo Segment 2) (Otay Mesa –Nestor Community Plan)
- Mission Bay – Mission Bay High School Facility Group (MBHS Segment 1 and Mission Bay Drive Segment 1) (Pacific Beach Community Plan)
- San Diego River – Nimitz Group (Nimitz Segment 1) (Peninsula Community Plan)
- Sweetwater River – Parkside Facility Group (Parkside Segment 1) (Skyline-Paradise Hills Community Plan)
- South Chollas Creek – Southcrest Facility Group (Ocean View Segment 1) (Southeastern San Diego Community Plan)
- Los Peñasquitos Lagoon – Industrial Facility Group (Industrial Segment 2); Los Peñasquitos Lagoon – Tripp Facility Group (Tripp Segment 1); Soledad Canyon Creek – Sorrento Facility Group (Roselle Segment 2) (Torrey Pines Community Plan)
- Washington Canyon Creek – Washington Group (Washington Segments 1 and 2) (Uptown Community Plan)

During maintenance and repair activities, mechanized equipment and vehicles could be used in or adjacent to MWMP facilities that may temporarily block or obstruct views from vistas or public vantage point identified in a community plan. Equipment and vehicles, including cranes, excavators, hydraulic dredgers, and dump trucks, may be used during MWMP maintenance and repair, and could be visible from public vantage points near facilities. Table 5.1-1 identifies those facilities that would be visible from a community plan identified public vantage point. With the exception of the cranes, larger typical construction equipment and vehicles would range from approximately 12 feet tall to 25 feet tall. Select equipment and vehicles would also include adjustable components, including hydraulically lifted beds/boxes and vehicles with boom extensions/attachments. When in

use, these adjustable components may result in a temporary increase in total height of specific construction equipment and vehicles.

MWMP facilities, including channels and ditches, basins, and drainage structures, are occasionally located near public vistas, vantage points, or view sensitive areas identified as such in local community plans. However, the temporary presence of construction equipment and vehicles in public views would not constitute a particularly substantial view obstruction. Repair activities such as concrete repair may take a few days or several weeks to be completed, and temporary stockpiling may last from several days to several months. Once maintenance and repair activities are completed, equipment and vehicles would not be present in public views. Proposed activities would be temporary, and equipment, vehicles, and storage of equipment and materials would be experienced by viewers over a short-term duration.

In addition to the potential view effects described above for MWMP activities, the storage of equipment within a City right-of-way may also occur during typical maintenance and repair activities. However, this construction practice routinely occurs throughout City and is a visual occurrence expected to be familiar to pedestrians, cyclists, and motorists. Further, the temporary presence of equipment alongside roads and other rights-of-way would not constitute a long-term view obstruction. Lastly, implementation of the MWMP and the ongoing maintenance of existing channels, ditches, basins, and other MWMP facilities would not conflict with applicable zoning or other regulations regarding scenic quality. Potential impacts concerning substantial landform alteration are addressed in Issue 5. In addition, potential conflicts with the City's Environmentally Sensitive Lands Regulations are addressed elsewhere in this document (see Section 5.3, Biological Resources, and Section 5.8, Land Use).

Therefore, MWMP activities would not substantially interrupt or obstruct any scenic vista, view, or public vantage point as identified in a community plan, including views to the Pacific Ocean, Mission and San Diego Bays, Chollas Creek, the San Diego River, parks, canyons, or mountains. In addition, and due to the same rationale provided above, MWMP activities would not substantially interrupt existing views to local view sensitive areas and landmarks that are near MWMP facilities. As such, impacts would be **less than significant**.

Issue 2: Would implementation of the project result in a negative aesthetic site or result in substantial alteration to the existing or planned character of the area, such as could occur with the construction of a subdivision in a previously undeveloped area?

Issue 3: Would the project result in bulk, scale, materials, or style which would be incompatible with surrounding development?

Project-Level Analysis (FMPs)

As previously stated, MWMP facilities are distributed throughout the City and primarily within urban, developed areas where they are part of the existing character of the neighborhood. Alternatively, a comparatively smaller number of MWMP facilities may occur on lands that may be used for passive recreational uses or within natural and community open space systems where they are part of the landscape character and often follow drainage contours that are lower than surrounding landforms. These facilities include the Norfolk Canyon Creek – Fairmont Facility Group that are located within the Norfolk Canyon system adjacent to Fairmont Avenue, Torrey Pines – Torrey Facility Group (Torrey Pines Segment 1; located in a narrow canyon off Torrey Pines Road), and Los Peñasquitos Canyon Creek–Black Mountain Facility Group (Black Mountain Segment 2). Black Mountain Segment 2 is an existing facility located in a public park (i.e., Los Peñasquitos Canyon Preserve).

During scheduled or as-needed maintenance activities, heavy construction equipment and haul trucks would be present in and around MWMP facilities. The presence of equipment and construction vehicles would alter the character of MWMP facilities as they are typically experienced by residents or public users as managed conveyances with varying degree of natural and constructed features. Construction equipment and vehicles would also result in the activation of these areas with construction and maintenance work. However, the presence of equipment and construction vehicles at MWMP facility sites would be temporary, since most maintenance activities would typically last between several days to several weeks. The temporary presence of equipment and vehicles near or within MWMP facilities, including those within canyons, designated open space or parkland, would not constitute long-term contrast or permanent alteration of the existing character of the MWMP facility or the larger surrounding area. Similarly, the activation of MWMP facilities with construction equipment, vehicles, and personnel would last for a short duration and would not result in incompatibility with surrounding development, including residential, commercial, recreation, and open space uses. MWMP facilities are existing features in their respective urban and natural landscapes that, along with nearby land uses and development, contribute to the existing character of the communities where they are located. Due to the temporary nature and short-term duration of active maintenance activities, maintenance equipment and vehicles would not result in the substantial alteration of existing aesthetic character and would not create permanent contrast that would be incompatible with surrounding development.

The MWMP would permit the continuation of routine maintenance and repair activities in open storm water facilities that currently occur and are conducted by the City. Typical maintenance activities include (among other tasks) vegetation and invasive plant species management. Typical repair activities include concrete and bank repair. MWMP facilities border a variety of land uses and development, and are located in residential neighborhoods, commercial corridor, canyons, and largely undeveloped river valleys. No new distribution or treatment facilities are proposed by the MWMP at this time, and the MWMP would not directly or indirectly result in new residential or other development that would entail an increase in demand for storm water infrastructure. Repair activities may result in the addition of concrete and/or riprap in channels or structures; however, these activities would be localized in existing developed facilities and would not substantially alter the existing visual character of the wider area. Further, the periodic maintenance of existing MWMP facilities through vegetation and/or invasive plant species management, culvert clearance, and sediment/debris removal would not result in bulk, scale, materials, or style that would be incompatible with surrounding development. Because no new buildings, structures, or other vertical features would be constructed, the MWMP would not entail the introduction of new architectural styles or building materials that would starkly contrast with adjacent development in areas that display a central, unifying theme. Lastly, implementation of the MWMP and the ongoing maintenance of existing channels, ditches, basins, and other MWMP facilities, including those within canyons, designated open space or parkland that are limited relative to facilities within urban and developed areas, would not conflict with applicable zoning or other regulations regarding visual character.

For purposes of evaluating potential negative site aesthetics or substantial alteration to existing or planned character, all MWMP facilities could potentially require removal of vegetation and this change was evaluated as a potential visual impact.

Typical vegetation (including invasive plant species) management activities would include grubbing, trimming, and/or removal of vegetation from channel/ditches, basins, and small areas in front of structures. Although the visual effects of vegetation management may be noticeable to nearby users of the area, these activities would be routine and are needed to reduce flood risk and restore conveyance capacities to as-built conditions. The growth, maintenance, die-back/die-off, and regrowth of vegetation within channels/ditches and basins is a cyclical process that currently exists in these communities. For example, once removed through maintenance or natural processes, the dominant understory vegetation within earthen-bottom MWMP facility segments would be expected to re-establish within 1 year. Therefore, the visual effects of removing vegetation from channels/ditches, basins, and in front of structures would be temporary since the form and spread of individual shrubs and trees would likely naturally re-establish over time. Further removal of vegetation within facilities located in a view-sensitive area, such as community plan–designated parks and open space, would not create a substantial visual loss since the undeveloped nature of these lands would remain and their function as visual relief from urbanization would not be significantly altered. Therefore, vegetation management would not result in

permanent visual change or alteration of the character of the surrounding area or the overall character of the larger community where MWMP facilities are located.

Channels, ditches, basins, and other MWMP facilities are singular features in the landscape that, along with nearby land uses, development, and vegetation, contribute to the overall visual character of an area. The MWMP would include repair and maintenance activities that would be employed at these existing facilities. As stated above, no new facilities are proposed. The MWMP would not open up new areas for development such that the existing visual character of a particular area would be fundamentally altered, such as by introduction of new urban development in a rural area. The repair and maintenance activities described in Chapter 4, Project Description, consist of activities that are currently employed by the City to maintain existing facilities, ditches, basins, and outlet and inlet structures. As such, repair and maintenance activities would not result in long-term visual contrast or visual change that constitutes substantial alteration of existing visual character of an area or a "negative" aesthetic site.

In summary, routine maintenance of storm water facilities would not result in a negative aesthetic site because no new development would be proposed, and activities would only maintain and repair existing infrastructure. Routine maintenance, including vegetative management, sediment/debris removal, and infrastructure repairs, currently occurs and would not result in a negative aesthetic site or visual change that would substantially alter the character of the surrounding area or community. Activities that would result in strong contrast to the community character, such as the construction of incompatible development or new development in previously undeveloped and natural areas, would not be proposed under the MWMP. Therefore, no new uses or structures are proposed, and as such, MWMP activities would not result in bulk, scale, materials, or style that would be incompatible with surrounding development. Therefore, visual character and quality associated with implementation of the MWMP would be **less than significant**.

Issue 4: Would the project result in the loss of any distinctive or landmark tree(s), or stand of mature trees as identified in a community plan?

Project-Level Analysis (FMPs)

The majority of community plans associated with lands traversed by MMWP facilities do not identify in-facility vegetation or invasive species as particularly distinctive or of landmark status/quality. As illustrated in Table 5.1-1, community plans generally do not identify specific stands of mature trees to be preserved/protected. Of the community plans listed in Table 5.1-1, only the Torrey Pines, University, Pacific Beach, and Peninsula community plans identify specific trees and vegetation in the community plan area as significant landmarks.

MWMP facilities are not located where distinctive/landmark trees are identified in located community plans. For example, MWMP facilities in the Torrey Pines community plan area would occur in previously disturbed creek corridors (Los Peñasquitos Creek and Soledad Creek) that support riparian and freshwater marsh vegetation communities. As such, MWMP activities would not result in the removal and/or loss of individual or mature stands of Torrey pine trees, which historically are associated with upland habitats. In addition, MWMP facilities in the Peninsula community plan are not located along specific streets identified as containing landmark trees. Similarly, MWMP activities within the Pacific Beach community plan area are not located where specific palm, pine, or tipu landmark trees are planted, and would not impact trees identified as "significant landmarks" in the community plan. Opportunistic palms growing along Pacific Beach (PB)-Olney Segment 1 and MBHS Segment 1 are not identified as distinctive or landmark trees in the Pacific Beach Community Plan and are not specifically identified as a mature stand of trees to be preserved/protected. Therefore, MWMP activities encompassing these palms would not be considered an impact under the adapted threshold of significance (i.e., Issue 4).

Because maintenance activities would not result in the loss of any distinctive or landmark tree(s) or stand of mature trees as identified in a community plan, impacts would be **less than significant**.

Issue 5: Would the project result in a substantial change to the existing landform or natural topography or other ground surface relief features through landform alteration?

Project-Level Analysis (FMPs)

The City's Significance Thresholds state that projects that would alter more than 2,000 cubic yards of earth per graded acre by either excavation or fill may have a potentially significant land form alteration impact. In addition, grading of a smaller amount may still be considered significant in highly scenic or environmentally sensitive areas. However, to meet this threshold, one or more of the following conditions must apply:

1) The project would disturb steep hillsides in excess of the encroachment allowances of the Environmentally Sensitive Lands regulations (LDC chapter 14, Article 3, Division 1.)
2) The project would create manufactured slopes higher than ten feet or steeper than 2:1 (50 percent).
3) The project would result in a change in elevations of steep hillsides as defined by LDC Section 113.0103 from existing grade to proposed grade of more than five feet by either excavation or fill, unless the area over which excavation or fill would exceed five feet is only at isolated points on the site. (A continuous elevation change of five feet may be noticeable in relation to surrounding areas. In addition, such a change may require retaining walls, ad other features to stabilize slopes, potentially resulting in a manufactured appearance.)

4) The project design includes mass terracing of natural slopes with cut or fill slopes in order to construct flat-pad structures.

MWMP activities capable of altering existing landforms or topography in highly scenic or environmentally sensitive areas include sediment/debris removal, structural clearing, and bank repair. Although maintenance and repair activities could remove more than 2,000 cubic yards of earth/material per graded acre for an individual activity, the MWMP would not trigger any of the conditions cited above to be considered potentially significant, as described herein. Project-level maintenance activities included in the MWMP would be implemented within existing facilities. Implementation of the MWMP would not result in the construction of new facilities or buildings that would require the substantial alteration of landforms through earth movement or development of steep hillsides. Further, maintenance activities would not create particularly steep or potentially unstable manufactured slopes, and would not include the construction of flat-pad structures. Instead, maintenance and repair activities under the MWMP would occur within established facilities and result in minor alterations of sediment and debris that had built up within that existing facility over time, and no new areas would be graded and/or modified. These minor alterations would typically occur through minor ground disturbance, removal of excess or built-up sediment, limited excavation to remove built-up materials, and regrading of earthen-bottom facility banks within existing facilities. Generally, the alteration of landforms or topography associated with MWMP activities would occur within low-lying areas and would be overlooked by casual observers and would not represent a substantial visual change when viewed from public viewing locations. Furthermore, landform alterations associated with the MWMP would return existing facilities to their as-built or original design and would occur in areas that have been previously disturbed when the channel/ditch, basin or structure was created and/or from past maintenance events. Finally, as existing facilities are currently subject to similar landform alterations that would occur under the MWMP, the continuation of these activities would not result in substantial or new changes to natural topography of drainage facilities. Impacts would be **less than significant**.

5.1.6 PROGRAM-LEVEL ANALYSIS (OTHER MWMP ACTIVITIES)

Programmatic activities would include minor maintenance activities, changed conditions or new/substantially amended FMPs, new compensatory mitigation sites (see Section 5.3, Biological Resources), and emergency maintenance or repair. Under the MWMP, these additional programmatic activities are subject to the review and approval processes outlined in the MWMP.

Under Issue 1, program-level activities would be similar to and result in similar visual impacts as the project-level activities described previously. While the visibility of MWMP facilities where program-level activities would occur would vary, mechanized equipment could be used in MWMP facilities that may temporarily block or obstruct scenic views (or views to scenic resources) as identified in a

community plan. Several MWMP facilities are located near specific scenic resources or views identified in a community plan. With the exception of compensatory mitigation, programmatic-level activities (similar to project-level activities) would be temporary and short term. For example, temporary view obstruction associated with the presence of maintenance/construction equipment would cease upon the completion of activities and views would be restored. As such, the majority of programmatic activities would not substantially obstruct existing views as identified in a community plan. Therefore, programmatic maintenance activities would not result in long-term blockage of public views from designated open space areas or roads, or to any significant visual landmarks or scenic vistas and views. Impacts would be **less than significant**.

Compensatory mitigation sites may be visible from a community plan identified vista, scenic view, or public vantage point and may entail the introduction of new vegetation. Depending on location, new vegetation could result in substantial view blockage or interruption. Therefore, program-level activities (primarily consisting of construction of new compensatory mitigation sites) conducted under the MWMP that would entail the introduction of new vegetation would be **potentially significant** (**AES-1**).

Regarding Issues 2 and 3, programmatic activities would result in similar visual effects as previously described for project-level activities. The visual effects associated with program-level activities would be noticeable to nearby residents or public users and would alter the characteristics displayed by in-facility vegetation. As with project-level activities, program-level activities would be focused in existing facilities and would not open up new areas for development. Further, program-level activities would not result in a substantial long-term contrast that would fundamentally and permanently alter the character of a particular area. Therefore, programmatic activities would not result in a negative aesthetic site, substantial alteration to the existing or planned character of the area, or incompatibility with surrounding development. Impacts would be **less than significant**.

Regarding Issue 4, program-level activities may occur anywhere within the City limits. While the content of individual community plans varies, drainage facilities are unlikely to support distinctive or landmark tree(s), or stands of mature trees identified in a community plan. As demonstrated in Table 5.1-1, above, identification/designation of specific trees and vegetation as distinctive or as landmarks in community plans is relatively unique. Further, distinctive or landmark trees are generally intentional plantings as opposed to opportunistic plantings or growth that may occur in periodically maintained drainage facilities. Therefore, as with project-level activities, program-level activities are unlikely to result in the removal of a stand of mature trees, distinct trees, or landmark trees identified in a community plan. Impacts would be **less than significant**.

Lastly, for the same reasons described above for project-level impacts associated with Issue 5, programmatic-level activities would also not result in substantial or new changes to natural topography of drainage facilities. Impacts would be **less than significant**.

5.1.7 SIGNIFICANCE OF IMPACT

With the exception of the construction of compensatory mitigation sites, project-level activities would result in less-than-significant impacts to scenic vistas or views identified in a local community plan (Issue 1). While unlikely, the construction of compensatory mitigation sites may result in substantial view blockage or interruption at community plan identified vistas, scenic views, or public vantage points. Therefore, program-level activities (primarily consisting of construction of new compensatory mitigation sites) conducted under the MWMP that would entail the introduction of new vegetation would be **potentially significant** (**AES-1**).Impacts related to the substantial alteration of existing (or planned) character and incompatibility with surrounding development (Issue 2 and 3), removal of distinctive or landmark trees (Issue 4), and substantial changes to landform or topography (Issue 5) would be **less than significant** for both project-level and program-level activities.

5.1.8 MITIGATION MEASURES

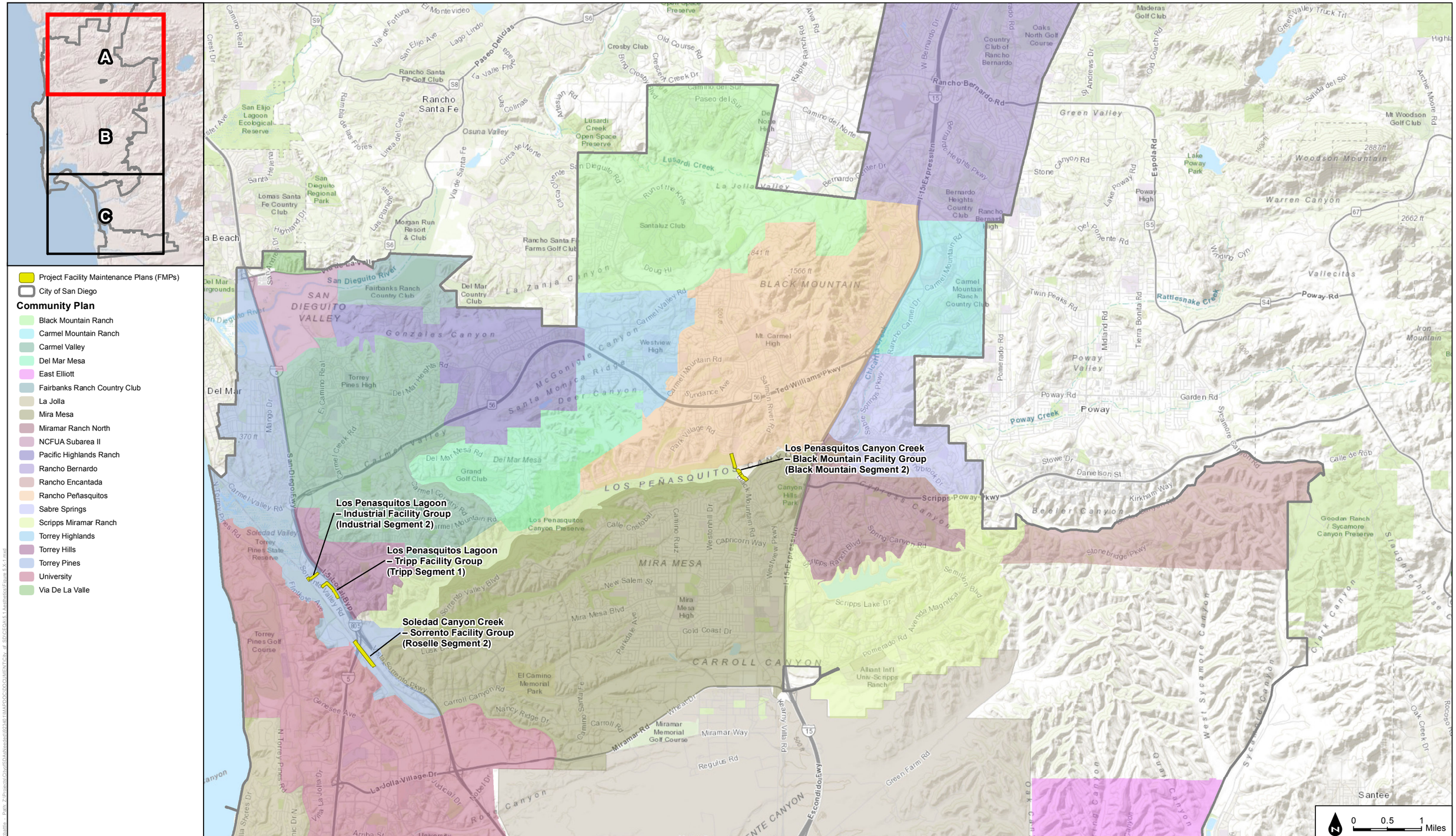
MM-AES-1 **Visual Analysis for Program Activities.** Where program activities, including construction of compensatory mitigation sites, would entail the introduction of new vegetation and (potential) substantial view blockage or interruption of a community plan identified vista, scenic view, or public vantage point, additional analysis shall be conducted. The analysis shall consider the nature of program-level activities; proximity to community plan identified vista, scenic view, or public vantage point; and potential for program-level activities to result in substantial, long-term view obstruction. If the analysis determines that substantial view obstruction may occur, then additional mitigation, including the selection of plants and trees with a shorter form, shall be considered in planting palettes to maintain existing view corridors at community plan identified views, scenic vistas, or public vantage points.

5.1.9 SIGNIFICANCE AFTER MITIGATION

Regarding Issue 1, with implementation of Mitigation Measure **MM-AES-1**, potential impacts to community plan identified vista, scenic view, or public vantage points associated with the construction of compensatory mitigation sites would be reduced to a **less than significant** level through the additional public view assessments that would consider proximity to community plan identified vista, scenic view, or public vantage point; and potential for program-level activities to result in substantial, long-term view obstruction. If the analysis determines that substantial view

obstruction may occur, then additional mitigation, including the selection of plants and trees with a shorter form, shall be considered in planting palettes to maintain existing view corridors at community plan identified vistas, scenic views or public vantage points.

All other potential programmatic impacts to scenic vistas and view Issues (i.e., Issues, 2, 3, and 4) were determined to be less than significant and would not require mitigation.



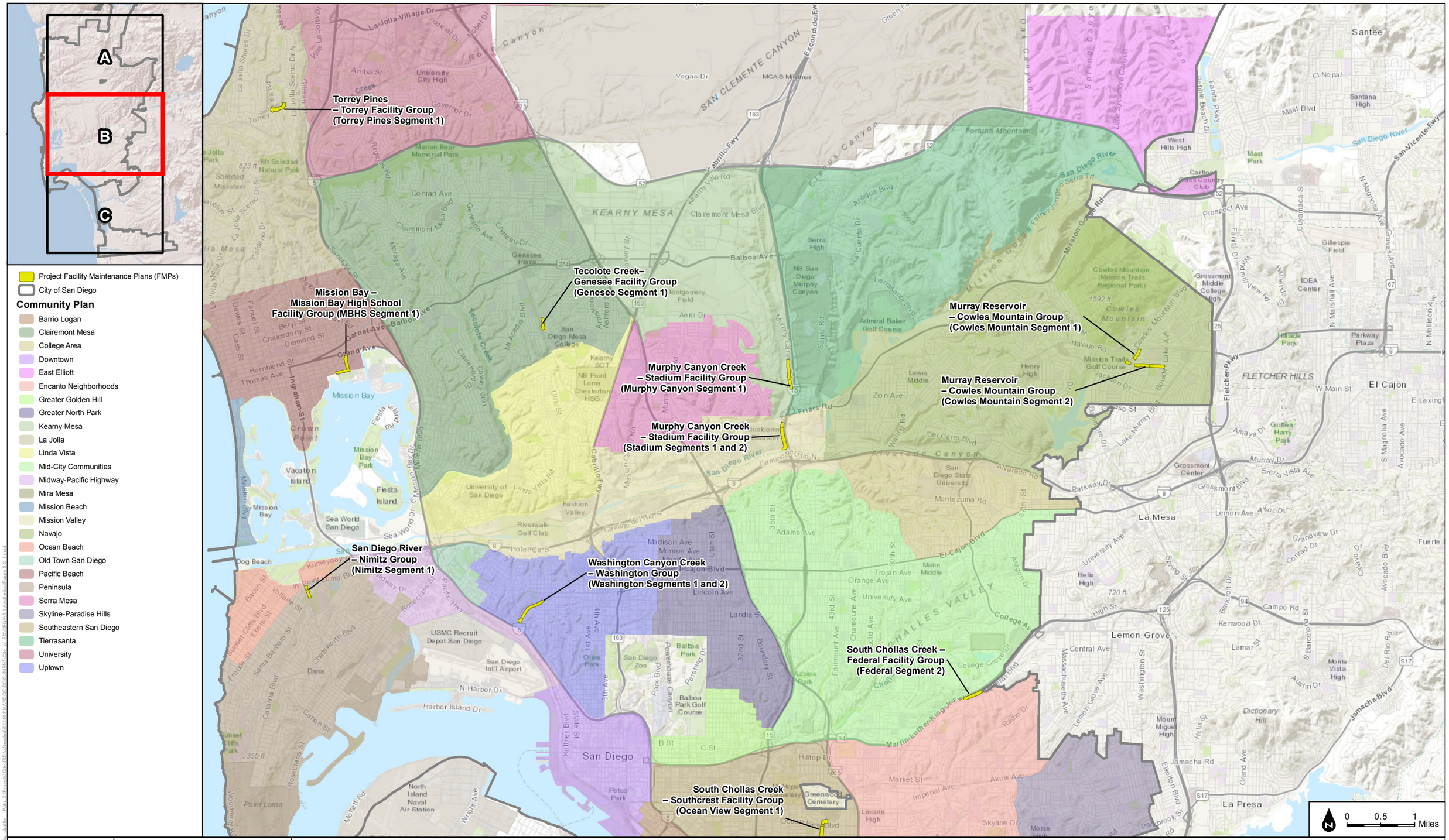
SOURCE: ESRI, 2017; SANDAG, 2017

DUDEK

Municipal Waterways Maintenance Plan EIR

Figure 5.1-1a MWMP Facility Groups Visible from Community Plan Identified Public Vantage Points

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



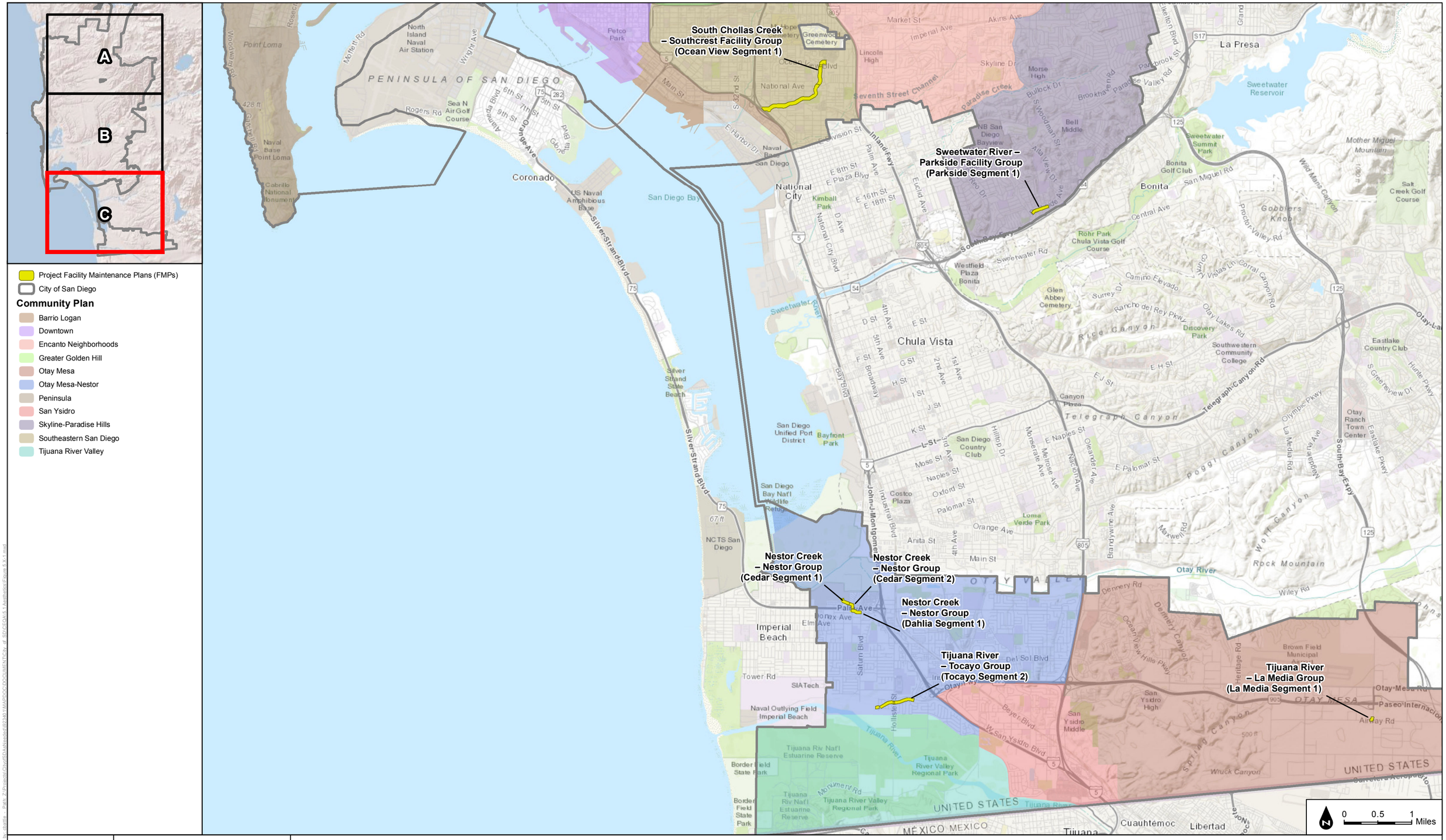
SOURCE: ESRI, 2017; SANDAG, 2017

DUDEK

Municipal Waterways Maintenance Plan EIR

Figure 5.1-1b MWMP Facility Groups Visible from Community Plan Identified Public Vantage Points

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



SOURCE: ESRI, 2017; SANDAG, 2017

DUDEK

Municipal Waterways Maintenance Plan EIR

Figure 5.1-1c MWMP Facility Groups Visible from Community Plan Identified Public Vantage Points

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

5.2 AIR QUALITY AND ODOR

5.2.1 INTRODUCTION

This section describes the existing air quality setting of the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP); identifies the applicable regulatory framework; evaluates potential impacts associated with air quality and odor that would result from the proposed MWMP; identifies mitigation measures, if necessary, to reduce the level of impact associated with implementation of the proposed MWMP; and identifies the level of significance after any mitigation. The following information is based on the *Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Municipal Waterways Maintenance Plan, City of San Diego, California*, prepared by Dudek, dated November 2019 (provided as Appendix C).

Implementation of the MWMP was determined to result in no impacts related to the substantial alteration of air movement. As such, potential impacts related to substantial alteration of air movement is analyzed in Chapter 7, Effects Not Found to be Significant.

5.2.2 EXISTING CONDITIONS

Climate and Topography

The primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted. Meteorological and topographical conditions, however, are also important. Factors such as wind speed and direction, air temperature gradients and sunlight, and precipitation and humidity interact with physical landscape features to determine the movement and dispersal of air pollutants. Meteorological and topographical factors that affect air quality in the San Diego Air Basin (SDAB) are described herein.[1]

Regional Climate and Meteorological Conditions

The climate of the San Diego region, as in most of Southern California, is influenced by the strength and position of the semi-permanent high-pressure system over the Pacific Ocean, known as the Pacific High. This high-pressure ridge over the West Coast often creates a pattern of late-night and early-morning low clouds, hazy afternoon sunshine, daytime onshore breezes, and little temperature variation year-round. The SDAB is characterized as a Mediterranean climate with dry, warm summers and mild, occasionally wet winters. Average temperature ranges (in degrees

[1] The discussion of meteorological and topographical conditions of the SDAB is based on information provided in the *Annual Air Quality Monitoring Network Plan 2016* (SDAPCD 2017a), the *City* of *San Diego General Plan Program Environmental Impact Report* (City of San Diego 2007), and *Recommended Area Designation for the 2010 Federal Sulfur Dioxide Standard* (CARB 2011).

Fahrenheit (°F)) from the mid-40s to the high 90s, with an average of 201 days above 70°F. The SDAB experiences 9–13 inches of rainfall annually with most of the region's precipitation falling from November through March, with infrequent (approximately 10%) precipitation during the summer. El Niño and La Niña patterns have large effects on the annual rainfall received in San Diego; San Diego typically receives less than normal rainfall during La Niña years.

The SDAB experiences frequent temperature inversions. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High-Pressure Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce ozone (O_3), which contributes to the formation of smog. Smog is a combination of smoke and other particulates, O_3, hydrocarbons, oxides of nitrogen (NO_x), and other chemically reactive compounds, which, under certain conditions of weather and sunlight, may result in a murky brown haze that causes adverse health effects.

Light daytime winds, predominately from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and NO_x emissions. CO concentrations are generally higher in the morning and late evening. In the morning, CO levels are elevated due to cold temperatures and the large number of motor vehicles traveling. Higher CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the basin are associated with heavy traffic. Nitrogen dioxide (NO_2) levels are also generally higher during fall and winter days.

Site-Specific Meteorological Conditions

The local climate in the San Diego region is characterized as semi-arid with consistently mild, warmer temperatures throughout the year. The average summertime high temperature in the region is approximately 80°F. The average wintertime low temperature is approximately 50°F. Average precipitation in the local area is approximately 10 inches per year, with the bulk of precipitation falling between December and March (NOAA 2017; WRCC 2009).

Topographical Conditions

Topography in the San Diego region varies greatly, from beaches in the west to mountains and desert in the east; much of the topography in between consists of mesa tops intersected by canyon areas. Along with local meteorology, topography influences the dispersal and movement of

pollutants in the SDAB. Mountains to the east prohibit dispersal of pollutants in that direction and help trap them in inversion layers.

The interaction of ocean, land, and the Pacific High-Pressure Zone maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

The topography of the SDAB also drives pollutant levels and the SDAB is classified as a transport recipient. Pollutants are transported from the South Coast Air Basin to the north and, when the wind shifts direction, from Tijuana, Mexico, to the south.

Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The City's *California Environmental Quality Act Significance Determination Thresholds* (City of San Diego 2016) define a sensitive receptor as "a person in the population who is particularly susceptible to health effects due to exposure to an air contaminant than is the population at large [such as] long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences (such as medical patients in homes), schools, playground, child care centers, [and] athletic facilities." People most likely to be affected by air pollution include children, the elderly, athletes, and people with cardiovascular and chronic respiratory diseases. Facilities and structures where people most likely to be affected by air pollution live or spend considerable amounts of time are known as sensitive receptors. Sensitive receptors that could be located nearby MWMP activities are anticipated to include residences and recreation centers adjacent to maintenance activities.

Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, NO_2, CO, sulfur dioxide (SO_2), particulate matter less than or equal to 10 microns in diameter (PM_{10}) (i.e., coarse particulate matter), particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$) (i.e., fine particulate matter), and lead (Pb). Lead, which is a criteria air pollutant, was phased out of gasoline in the early 1990s. As a result of this phase-out, manufacturing facilities, which are separately regulated by the

San Diego County Air Pollution Control District (SDAPCD), became the largest source of lead emissions; manufacturing facilities are not included in this analysis. These pollutants are discussed in the following paragraphs.[2] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a pale blue gas that is formed in the atmosphere when volatile organic compounds (VOCs), sometimes referred to as reactive organic gases, and NO_x react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of VOCs and NO_x, the precursors of O_3, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. Short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. Most NO_2, like O_3, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_x and are major contributors to O_3 formation. High concentrations of NO_2 can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016a).

Carbon Monoxide. CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability

[2] The descriptions of each of the criteria air pollutants and associated health effects are based on the U.S. Environmental Protection Agency's *Glossary of Climate Change Terms* (EPA 2016a) and the *Glossary of Terms Used in GHG Inventories* (CARB 2015).

to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOC. Inhalable or coarse particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates, can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport absorbed gases, such as chlorides or ammonium, into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paint, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%.

With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.

Non-Criteria Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Examples include certain aromatic and chlorinated hydrocarbons, formaldehyde, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced either on short-term (acute) or long-term (chronic) exposure to a given TAC.

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. The California Air Resources Board (CARB) classified "particulate emissions from diesel-fueled engines" (i.e., DPM) as a TAC in August 1998 (17 CCR 93000). DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines, including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000).

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected

and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor and recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact. Examples of land uses and industrial operations that are commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food processing facilities, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. In addition to the odor source, the distance between the sensitive receptor(s) and the odor source, and the local meteorological conditions, are considerations in the potential for a project to frequently expose the public to objectionable odors. Although localized air quality impacts are focused on potential impacts to sensitive receptors (such as residences), schools, playgrounds, and childcare centers should also be considered in the evaluation of potential odor nuisance impacts.

Valley Fever. Coccidioidomycosis, more commonly known as Valley Fever, is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. San Diego County (County) is not considered a highly endemic region for Valley Fever as the latest report from the California Department of Public Health listed San Diego County as having 4.4 cases per 100,000 people per year (Nelson 2018). In 26 of the 30 zip codes in the MWMP program area, the incidence of Valley Fever is either less than the average County rate or had too few cases to be reliably used to calculate a rate (Nelson 2018).[3] All zip codes in the MWMP area had an incident rate lower than the statewide average. Statewide incidences in 2016 were 13.7 per 100,000 people (CDPH 2016).

Even if present at a site, earth-moving activities may not result in increased incidence of Valley Fever. Propagation of *Coccidioides immitis* is dependent on climatic conditions, with the potential for growth and surface exposure highest following early seasonal rains and long dry spells. *Coccidioides immitis* spores can be released when filaments are disturbed by earth-moving activities, although receptors must be exposed to and inhale the spores to be at increased risk of developing Valley Fever. Moreover, exposure to *Coccidioides immitis* does not guarantee that an individual will become ill—approximately 60% of people exposed to the fungal spores are asymptomatic and show no signs of an infection (USGS 2000).

[3] Per the County of San Diego Health and Human Services Agency, Coccidioidomycosis incidence counts for a single year and a single zip code are too small to work with; therefore, incidence counts reflect 10 years of aggregated data (2007–2016) (Nelson 2018).

Local Air Quality

San Diego Air Basin Attainment Designation

An area is designated in attainment when it is in compliance with the National Ambient Air Quality Standards (NAAQS) and/or California Ambient Air Quality Standards (CAAQS). These standards are set by the U.S. Environmental Protection Agency (EPA) or CARB for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. The criteria pollutants of primary concern that are considered in this analysis are O_3, NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$. Although there are no ambient standards for VOCs or NO_x, they are important as precursors to O_3.

Table 5.2-1 summarizes the SDAB's federal and state attainment designations for each of the criteria pollutants.

Table 5.2-1
SDAB Attainment Classification

Pollutant	Federal Designation[a]	State Designation[b]
O_3 (1 hour)	Attainment[c]	Nonattainment
O_3 (8 hours – 1997) (8 hours – 2008)	Attainment (Maintenance) Nonattainment (Moderate)	Nonattainment
NO_2	Unclassifiable/Attainment	Attainment
CO	Attainment (Maintenance)	Attainment
SO_2	Unclassifiable/Attainment	Attainment
PM_{10}	Unclassifiable/Attainment	Nonattainment
$PM_{2.5}$	Unclassifiable/Attainment	Nonattainment
Lead	Unclassifiable/Attainment	Attainment
Sulfates	No federal standard	Attainment
Hydrogen sulfide	No federal standard	Unclassified
Visibility-reducing particles	No federal standard	Unclassified
Vinyl chloride	No federal standard	No designation

Notes: O_3 = ozone; NO_2 = nitrogen dioxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter

[a] EPA 2016b

[b] CARB 2016a

[c] The federal 1-hour standard of 0.12 was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in state implementation plans.

In summary, the SDAB is designated as an attainment area for the 1997 8-hour O_3 NAAQS and as a nonattainment area for the 2008 8-hour O_3 NAAQS. The SDAB is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ CAAQS. The portion of the SDAB where the MWMP program area is located is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS.

Local Ambient Air Quality

The MWMP area's local ambient air quality is monitored by the SDAPCD. CARB, air districts, and other agencies monitor ambient air quality at approximately 250 air quality monitoring stations across the state. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations.

Two air quality monitoring stations are located in the City: Kearny Villa (6125 Kearny Villa Road) and downtown San Diego (1110 Beardsley Street). Given that individual facilities associated with the MWMP are distributed throughout the City, data were examined for each of the two air quality monitoring sites and the maximum air pollutant concentration monitored is presented in Table 5.2-2. Neither monitoring station in the City measures SO_x; therefore, data from the nearest monitoring station in El Cajon was used. The data collected at these stations are considered representative of the air quality experienced in the MWMP vicinity. Air quality data from 2014 through 2016 for the monitoring stations are provided in Table 5.2-2.

Table 5.2-2
Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2014	*2015*	*2016*	*2014*	*2015*	*2016*
Ozone (O_3)										
Kearny Villa	ppm	Maximum 1-hour concentration	State	0.09	0.099	0.077	0.087	1	0	0
	ppm	Maximum 8-hour concentration	State	0.070	0.081	0.070	0.075	4	0	3
			Federal	0.070	0.081	0.070	0.075	4	0	3
Nitrogen Dioxide (NO_2)										
Downtown San Diego	ppm	Maximum 1-hour concentration	State	0.18	0.075	0.062	0.073	0	0	0
			Federal	0.100	0.075	0.062	0.073	0	0	0
	ppm	Annual concentration	State	0.030	0.013	0.014	0.012	0	0	0
			Federal	0.053	0.013	0.014	0.012	0	0	0
Carbon Monoxide (CO)										
Downtown San Diego	ppm	Maximum 1-hour concentration	State	20	2.7	2.6	2.2	0	0	0
			Federal	35	2.7	2.6	2.2	0	0	0
	ppm	Maximum 8-hour concentration	State	9.0	1.9	1.4	1.7	0	0	0
			Federal	9	1.9	1.4	1.7	0	0	0
Sulfur Dioxide (SO_2)										
El Cajon	ppm	Maximum 1-hour concentration	Federal	0.075	1.2	1.2	1.8	0	0	0
	ppm	Maximum 24-hour concentration	Federal	0.14	0.3	0.4	0.5	0	0	0
	ppm	Annual concentration	Federal	0.030	—	—	—	—	—	—

Table 5.2-2
Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2014	*2015*	*2016*	*2014*	*2015*	*2016*
Coarse Particulate Matter (PM_{10}) [a]										
Downtown San Diego	$\mu g/m^3$	Maximum 24-hour concentration	State	50	41.0	54.0	51.0	0	0	0
			Federal	150	40.0	53.0	49.0	0	0	0
	$\mu g/m^3$	Annual concentration	State	20	23.8	25	ND	0.0	5.7	ND
Fine Particulate Matter ($PM_{2.5}$) [a]										
Downtown San Diego	$\mu g/m^3$	Maximum 24-hour concentration	Federal	35	36.7	33.4	34.4	1	0	ND
	$\mu g/m^3$	Annual concentration	State	12	10.2	10.2	ND	0	0	0
			Federal	12.0	10.1	9.3	ND	0	0	0

Sources: CARB 2017; EPA 2016c.

Notes: ppm = parts per million by volume; $\mu g/m^3$ = micrograms per cubic meter; — = not available; ND = insufficient data available to determine the value. Data were taken from CARB iADAM (http://www.arb.ca.gov/adam) or EPA AirData (http://www.epa.gov/airdata/) and represent the highest concentrations experienced over a given year.

Exceedances of federal and state standards are shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed either federal or state standards during the years shown. There is no federal standard for 1-hour O_3, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.

[a] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1–3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

5.2.3 REGULATORY SETTING

Federal

Federal Clean Air Act

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including setting NAAQS for major air pollutants, setting hazardous air pollutant (HAP) standards, approving state attainment plans, setting motor vehicle emission standards, issuing stationary source emission standards and permits, and establishing acid rain control measures, stratospheric O_3 protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for criteria pollutants: O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

Hazardous Air Pollutants

The 1977 federal CAA Amendments required the EPA to identify National Emission Standards for HAPs to protect public health and welfare. HAPs include certain VOCs, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal CAA Amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

State

California Clean Air Act

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became

part of the California EPA in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established CAAQS, which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, and $PM_{2.5}$ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The NAAQS and CAAQS are presented in Table 5.2-3.

Table 5.2-3
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
O_3	1 hour	0.09 ppm (180 μg/m^3)	—	Same as Primary Standard[f]
	8 hours	0.070 ppm (137 μg/m^3)	0.070 ppm (137 μg/m^3)[f]	
NO_2[g]	1 hour	0.18 ppm (339 μg/m^3)	0.100 ppm (188 μg/m^3)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	0.053 ppm (100 μg/m^3)	
CO	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	None
	8 hours	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	
SO_2[h]	1 hour	0.25 ppm (655 μg/m^3)	0.075 ppm (196 μg/m^3)	—
	3 hours	—	—	0.5 ppm (1,300 μg/m^3)
	24 hours	0.04 ppm (105 μg/m^3)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 μg/m^3	150 μg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	20 μg/m^3	—	
$PM_{2.5}$[i]	24 hours	—	35 μg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	12 μg/m^3	12.0 μg/m^3	15.0 μg/m^3

Table 5.2-3
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
Lead[j,k]	30-day Average	1.5 μg/m^3	—	—
	Calendar Quarter	—	1.5 μg/m^3 (for certain areas)[k]	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 μg/m^3	
Hydrogen sulfide	1 hour	0.03 ppm (42 μg/m^3)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 μg/m^3)	—	—
Sulfates	24 hours	25 μg/m^3	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016b.

Notes: μg/m^3 = micrograms per cubic meter; mg/m^3= milligrams per cubic meter; ppm = parts per million by volume; O_3 = ozone; NO_2 = nitrogen dioxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[g] To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h] On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

[j] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Toxic Air Contaminants

California regulates TACs primarily through the Tanner Air Toxics Act (Assembly Bill 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (Assembly Bill 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified over 21 TACs and has adopted the EPA's list of HAPs as TACs. Once a TAC is identified, CARB then adopts an airborne toxics control measure for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate best available control technology for toxics to minimize emissions. None of the TACs identified by CARB have a safe threshold.

Under the Air Toxics "Hot Spots" Act existing facilities that emit air pollutants above specified level were required to (1) prepare a TAC emission inventory plan and report, (2) prepare a risk assessment if TAC emissions were significant, (3) notify the public of significant risk levels, and (4) if health impacts were above specified levels, prepare and implement risk reduction measures.

California Health and Safety Code Section 41700

This section of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

Local

San Diego Air Pollution Control District

The SDAPCD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the SDAB, where the proposed MWMP activities are located. SDAPCD operates monitoring stations in the SDAB, develops rules and regulations for stationary sources and equipment, prepares emissions inventory and air quality management planning documents, and conducts source testing and inspections.

The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The Regional Air Quality Strategy (RAQS) for the SDAB was initially adopted in 1991, and is updated on a triennial basis (most recently in 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The RAQS relies on information from CARB and SANDAG to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB's mobile source emission projections and SANDAG's growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of the development of their general plans.

The *Eight-Hour Ozone Attainment Plan for San Diego County* indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O_3 standard by 2018 (SDAPCD 2016a). In this plan, SDAPCD relies on the RAQS to demonstrate how the region will comply with the federal O_3 standard. The RAQS details how the region will manage and reduce O_3 precursors (NO_x and VOCs) by identifying measures and regulations intended to reduce these pollutants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and the EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

The SDAPCD's *Measures to Reduce Particulate Matter in San Diego County* report addresses implementation of Senate Bill 656 in San Diego County (Senate Bill 656 required additional controls to reduce ambient concentrations of PM_{10} and $PM_{2.5}$) (SDAPCD 2005). In the report, SDAPCD evaluated implementation of source-control measures that would reduce particulate matter emissions associated with residential wood combustion; various construction activities, including earthmoving, demolition, and grading; bulk material storage and handling; carryout and trackout removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust.

Applicable Rules

Emissions that would result from implementation of maintenance activities under the MWMP may be subject to SDAPCD rules and regulations. The SDAPCD rules applicable to the MWMP may include the following:

- **SDAPCD Regulation II: Permits; Rule 20.2**: **New Source Review Non-Major Stationary Sources**. Requires new or modified stationary source units (that are not major stationary sources) with the potential to emit 10 pounds per day or more of VOC, NO_x, SO_x, or PM_{10} to be equipped with best available control technology. For those units with a potential to emit above Air Quality Impact Assessments Trigger Levels, the units must demonstrate that such emissions would not violate or interfere with the attainment of any national air quality standard (SDAPCD 2016b).
- **SDAPCD Regulation IV: Prohibitions; Rule 50**: **Visible Emissions**. Prohibits discharge into the atmosphere, from any single source of emissions whatsoever, any air contaminant for a period or periods aggregating more than 3 minutes in any period of 60 consecutive minutes which is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart (SDAPCD 1997).
- **SDAPCD Regulation IV: Prohibitions; Rule 51**: **Nuisance**. Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1976).
- **SDAPCD Regulation IV: Prohibitions; Rule 55**: **Fugitive Dust**. Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDAPCD 2009).

5.2.4 THRESHOLDS OF SIGNIFICANCE

The City's *California Environmental Quality Act Significance Determination Thresholds* (City of San Diego 2016) and Appendix G of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.) contain significance guidelines related to air quality. The following questions are adapted from the City (City of San Diego 2016), and provide guidance to determine potential significance for air quality impacts. The MWMP may have a significant air quality impact if it would do any of the following:

Issue 1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Issue 2: Would the project expose sensitive receptors to substantial pollutant concentrations?

Issue 3: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Issue 4: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) indicates that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to determine whether a project would have a significant impact on air quality (CEQA Guidelines Appendix G Checklist Item III, Air Quality).

As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 requiring the preparation of Air Quality Impact Assessments for permitted stationary sources. The SDAPCD sets forth quantitative emission thresholds below which a stationary source would not have a significant impact on ambient air quality. MWMP-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable screening-level thresholds presented in Table 5.2-4 are exceeded. For CEQA purposes, these screening criteria can be used as quantitative methods to demonstrate that a project's total emissions would or would not result in a significant impact to air quality.

Table 5.2-4
SDAPCD Air Quality Screening-Level Thresholds

Construction Emissions	
Pollutant	*Total Emissions (pounds per day)*
Respirable particulate matter (PM_{10})	100
Fine particulate matter ($PM_{2.5}$)	55
Oxides of nitrogen (NO_x)	250

Table 5.2-4
SDAPCD Air Quality Screening-Level Thresholds

Construction Emissions			
Pollutant	*Total Emissions (pounds per day)*		
Oxides of sulfur (SO_x)	250		
Carbon monoxide (CO)	550		
Volatile organic compounds (VOC)	137[a]		
Operational Emissions			
Pollutant	*Total Emissions*		
	Pounds per Hour	*Pounds per Day*	*Tons per Year*
Respirable particulate matter (PM_{10})	—	100	15
Fine particulate matter ($PM_{2.5}$)	—	55	10
Oxides of nitrogen (NO_x)	25	250	40
Sulfur oxides (SO_x)	25	250	40
Carbon monoxide (CO)	100	550	100
Lead and lead compounds	—	3.2	0.6
Volatile organic compounds (VOC)	—	137[a]	13.7

Sources: City of San Diego 2016; SDAPCD 2017b

[a] VOC threshold based on the significance thresholds recommended by the Monterey Bay Air Resources District for the North Central Coast Air Basin, which has similar federal and state attainment status as the SDAB for O_3.

The SDAPCD air quality screening-level thresholds shown in Table 5.2-4 were used to determine significance of MWMP-generated criteria air pollutants; specifically, the MWMP's potential to violate any air quality standard or contribute substantially to an existing or projected air quality violation. The pounds per day threshold for construction and operational emissions are the same, which is applied in this analysis. The emissions-based thresholds for O_3 precursors are intended to serve as a surrogate for an "O_3 significance threshold" (i.e., the potential for adverse O_3 impacts to occur). This approach is used because O_3 is not emitted directly and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods. Emissions below the screening-level thresholds would not cause a significant impact.

For nonattainment pollutants, if emissions exceed the thresholds shown in Table 5.2-4, the MWMP could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality (as assessed under threshold criterion 4).

In regards to the analysis of potential impacts to sensitive receptors (threshold criterion 2), the City specifically recommends consideration of sensitive receptors in locations such as day care centers, schools, retirement homes, and hospitals, or medical patients in residential homes close to major roadways or stationary sources, which could be impacted by air pollutants.

SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person (SDAPCD 1976). Regarding threshold criterion 3, a project that includes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors. The City's guidance also states that the significance of potential odor impacts should be determined based on what is known about the quantity of the odor compound(s) that would result from the project's proposed use(s), the types of neighboring uses potentially affected, the distance(s) between the project's point source(s) and the neighboring uses such as sensitive receptors, and the resultant concentration(s) at the receptors.

5.2.5 APPROACH AND METHODOLOGY

To provide a conservative analysis of activities proposed under the MWMP, representative projects were identified by the City based on input from City engineers and operations staff. For each maintenance activity, a proposed representative segment was selected to represent that category and analyzed to evaluate potential emissions associated with implementation of activities within that maintenance category. The representative project selection is presented in Appendix K. There are a total of 113 facilities analyzed in the Environmental Impact Report, with eight corresponding representative projects. Additionally, within those 113 facilities, an estimated 55 would potentially also include concrete repair represented with two additional projects (10 representative projects total). Information regarding a typical construction scenario, including anticipated phasing and phase duration, off-road equipment, worker trips, vendor truck trips (including water trucks), and haul truck trips, was generated for each of these representative segment facility maintenance plans (FMPs).

These representative projects are intended to represent a high-level intensity scenario associated with proposed MWMP implementation. Construction specifications of each activity would vary depending on the subject site characteristics, maintenance or improvement needs, and type of proposed solution; however, construction requirements for activities within the same category are not expected to differ substantially. Because several of the proposed activities address similar issues, the proposed solutions include similar procedures, many of which are techniques the City has historically used to resolve common issues, including routine activities that do not require advanced planning and design.

Criteria air pollutant emissions associated with representative projects were quantified using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. Project-specific information was assumed in CalEEMod based on information provided by City staff and representative segment FMPs when available. Default values provided in CalEEMod were used where detailed project-specific information was not available.

The representative projects are broadly characterized into two main categories: concrete-lined and earthen-bottom segments. Both categories include multiple representative segment FMPs to provide a range of scenarios that could occur over the course of the MWMP.

Concrete-Lined Facilities

Proposed maintenance activities in concrete-lined facilities are represented by four representative segment FMPs of varying intensity: 20% or more of the facility requires vegetation removal, less than 20% of the facility requires vegetation removal, minor concrete repair, and major concrete repair. Of the 113 proposed segment FMPs, 43 segments (38%) consist of less than 20% vegetation removal and 11 segments (10%) consist of 20% or more vegetation removal. Additionally, it is estimated that within the 113 FMPs, 50 segments may require minor concrete repair and five segments may require major concrete repair.[4]

Earthen-Bottom Facilities

Proposed maintenance activities in earthen-bottom facilities include six representative segment FMPs of varying intensity: large to small channels/ditches and basins, outlet/inlet structures, and a facility that is atypical in size. Of the 113 proposed MWMP segment FMPs, 47 (42%) would consist of earthen-bottom channel/ditch or basin segments and 10 (9%) would consist of outlet/inlet structures. In addition, one project, the Tijuana River Smuggler's Gulch project, was analyzed to represent the maximum intensity of anticipated activities associated with earthen-bottom facilities. The Tijuana River Smuggler's Gulch project includes two segments and represents 2% of the FMPs. The earthen-bottom channel/ditch and basins projects are represented by four representative segment FMPs to provide a more complete picture of geographies in the City for typical projects.

Timing and Duration

Implementation of maintenance activities for all segments would be ongoing. Based on the City Transportation & Storm Water Department's fleet and personnel capacity, it was determined that a maximum of 10 maintenance activities[5] could occur concurrently and represent the most conservative

[4] Concrete repair represents additional facility work at locations where vegetation and sediment removal are also anticipated and do not represent separate facilities or standalone FMPs. These concrete repair projects therefore do not count toward the 113 segment FMPs.

[5] As shown in Table 5.2-7, representative projects used to estimate maximum concurrent daily activities include representative project ID's 1 through 5 and 7 through 10, with project ID 9 duplicated to represent two occurrences.

possible daily emissions. Additionally, it was determined that a maximum of 43 maintenance activities[6] could occur in a calendar year, representing the maximum potential annual emissions.

The representative proposed maintenance activities selected for this air quality analysis are described in this subsection. Table 5.2-5 presents a summary of the representative proposed channel maintenance and repair activities analyzed herein.

Details and construction assumptions for each representative project are provided in the *Air Quality and Greenhouse Gas Emissions Analysis Technical Report* (Appendix C).

[6] The estimated maximum annual maintenance includes 33 segments (19 sediment and vegetation removal and 14 concrete repair) and 10 structures. Concrete repair and sediment/vegetation removal may occur in the same facility location, but are considered separate projects for purposes of this analysis.

Table 5.2-5
Representative Maintenance and Repair Activities Summary

Representative Project ID	Maintenance Activity Category	Approximate Number of FMP Segments Represented	Representative Facility Maintenance Plan	Approximate Linear Feet	Approximate Cubic Yards
1	Concrete with Vegetation Removal (20% or more vegetated)	11	San Diego River – Camino del Rio Segment 1	1,000	800
2	Concrete with Vegetation Removal (less than 20% vegetated)	43	Alvarado Canyon Creek – Mission Gorge Segment 2	600	1,400
3	Minor Concrete Repair	50	Generic Concrete Repair FMP	50	32
4	Major Concrete Repair	5	Tijuana River – Via Encantadoras Segment 3	900	121
5	Earthen Facility Typical – 1	8	Mission Bay – Mission Bay Drive Segment 1	1,000	2,600
6	Earthen Facility Typical– 2	8	Murphy Canyon Creek – Stadium Segment 1	1,700	3,800
7	Earthen Facility Typical – 3	16	Tecolote Creek – Genesee Segment 1	700	3,600
8	Earthen Facility Typical– 4	15	Mission Hills Canyon Creek – Titus Segment 1	80	200
9	Earthen Facility Typical Outlet/Inlet Structure	10	Outlet/Inlet Structure – 4202 J Street	115	32
10	Tijuana River Smuggler's Gulch Project	2	Tijuana River – Pilot & Smuggler's Gulch Segments*	8,300	30,000

Source: Appendix C.
Notes: FMP = Facility Maintenance Plan.
* The Tijuana River Smuggler's Gulch represents two segments modeled as one project and should not be doubled to determine estimated emissions from these segments.

5.2.6 IMPACTS

As described in Chapter 4, Project Description, the MWMP includes a description of maintenance and repair activities and supporting implementation methods. The majority of these activities are routine and anticipated to occur in conformance with specific FMPs included in the MWMP (Appendix A). Routine refers to typical activities that occur on a regular, ongoing basis and are associated with maintaining storm water infrastructure. However, additional activities not identified in an FMP may be required and may occur anywhere within the City's storm water conveyance system.

Potential site-specific impacts associated with implementation of MWMP activities and methods as identified in the FMPs are described below under the "Project-Level Analysis (FMPs)" heading for each of the issues identified above. As further detailed in Chapter 4, Project Description, MWMP activities consist of maintenance and repair activities. Maintenance activities include vegetation and invasive plant species management, sediment/debris removal, structural/debris/trash-fence clearing, and culvert clearing. Repair activities include concrete (minor and major) and bank repair, and structural/debris/trash-fence repair.

Potential impacts associated with implementation of additional MWMP activities and methods (e.g., minor maintenance, changed conditions/new or substantially amendment FMPs, compensatory mitigation sites, and emergency maintenance) are identified under Section 5.2.7, Program-Level Analysis (Other MWMP Activities). These impacts are analyzed to the extent feasible at this time; however, additional project-level CEQA analysis and/or new or amended permits may be required prior to implementation.

This analysis presents emissions at the representative project facilities. As described above, maximum daily (i.e., concurrent) and annual emissions were estimated based on maintenance activities occurring at a number of the facilities where FMPs have been prepared. Program-level activities may occur instead of a project-level activity; however, program-level activities are anticipated to be of similar size and scope as the project-level activities and, therefore, do not represent a substantial change to the emissions presented in the project-level analysis. The addition of program-level activities is not anticipated to increase emissions above the maximum daily and annual project-level estimates, as those maximums were determined by the City's historical capability to perform these program-level activities as limited by staff and resources. The City's significance criteria described in Section 5.2.4, Thresholds of Significance, were used to evaluate impacts associated with implementation of the MWMP.

Issue 1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Project-Level Analysis (FMPs)

The SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in the SDAB; specifically, the State Implementation Plan (SIP) and RAQS. The federal O_3 maintenance plan, which is part of the SIP, was adopted in 2016. The SIP demonstrates that current strategies and tactics will maintain acceptable air quality in the SDAB based on the NAAQS. The RAQS was initially adopted in 1991 and is updated on a triennial basis (most recently in 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County and the cities in the County, to forecast future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of developing their general plans.

If a project would involve development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the SIP and RAQS, and may contribute to a potentially significant cumulative impact on air quality. The MWMP would not conflict with existing zoning or General Plan land use designations for all proposed maintenance activities. Implementation of the MWMP would not result in an increase in employment, and would use existing City staff. Additionally, the MWMP would neither include a residential component that would increase local population growth, nor provide additional water supplies that would result in growth-inducing effects.

In summary, the MWMP would not provide for residential development growth or local employment growth; therefore, the MWMP would not result in development in excess of that anticipated in local plans or increases in population/housing growth beyond those contemplated by SANDAG. As such, vehicle trip generation and planned development for the various MWMP-proposed maintenance activities is considered to be anticipated in the SIP and RAQS. Because the proposed MWMP activities and associated vehicle trips are anticipated in local air quality plans, the MWMP would be consistent at a regional level with the underlying growth forecasts in the RAQS. Impacts as a result of project-level activities would be **less than significant**.

Issue 2: Would the project expose sensitive receptors to substantial pollutant concentrations?

Project-Level Analysis (FMPs)

Carbon Monoxide Hotspots

Traffic-congested roadways and intersections have the potential to generate localized high levels of CO. Localized areas where ambient concentrations exceed federal and/or state standards for CO are termed CO "hotspots." CO transport is extremely limited and disperses rapidly with distance from the source. Typically, high CO concentrations are associated with severely congested intersections operating at an unacceptable level of service (level of service E or worse). Projects contributing to adverse traffic impacts may result in the formation of a CO hotspot. Additional analysis of CO hotspot impacts would be conducted if a project would result in a significant impact or contribute to an adverse traffic impact at a signalized intersection that would potentially subject sensitive receptors to CO hotspots.

Individual proposed project-level maintenance activities would be temporary and would not be a source of daily, long-term mobile-source emissions. Accordingly, proposed activities would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots. In addition, due to continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SDAB is steadily decreasing. Maximum background CO levels in the County, as shown in Table 5.2-2, are less than 25% of the 1-hour and 8-hour NAAQS and CAAQS and would be expected to improve further due to reductions in motor vehicle emissions. Based on these considerations, project-level MWMP activities would result in a **less than significant** impact to air quality with regard to potential CO hotspots.

Toxic Air Contaminants

In addition to impacts from criteria pollutants, MWMP impacts may include emissions of pollutants identified by the state and federal government as TACs or HAPs. State law has established the framework for California's TAC identification and control project, which is generally more stringent than the federal project, and is aimed at TACs that are a problem in California. The state has formally identified more than 200 substances as TACs, including the federal HAPs, and is adopting appropriate control measures for sources of these TACs.

The greatest potential for TAC emissions during construction would be diesel particulate emissions from heavy equipment operations and heavy-duty trucks, and the associated health impacts to sensitive receptors. The closest sensitive receptors are residences and recreation centers located directly adjacent to the proposed MWMP segments.

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SDAPCD recommends an incremental cancer risk threshold of 10 in 1 million. "Incremental cancer risk" is the likelihood that a person continuously exposed to concentrations of TACs resulting from a project over a 70-year lifetime will contract cancer based on the use of standard risk-assessment methodology. Construction of MWMP components would not require the extensive ongoing use of heavy-duty construction equipment, which is subject to a CARB airborne toxic control measure for in-use diesel construction equipment to reduce diesel particulate emissions, and would not involve extensive ongoing use of diesel trucks, which are also subject to an airborne toxic control measure. Construction of Project components would occur multiple phases over 5 to 10 years. Following completion of construction activities, MWMP-related TAC emissions would cease.

CARB has published the Air Quality and Land Use Handbook: A Community Health Perspective (CARB 2005), which identifies certain types of facilities or sources that may emit substantial quantities of TACs and, therefore, could conflict with sensitive land uses, such as schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities. The MWMP would neither include sensitive land uses nor would it generate substantial short-term TAC concentrations or include long-term TAC sources on site that would impact potential sensitive land use receptors. Accordingly, the MWMP would not generate substantial TAC emissions that would conflict with surrounding sensitive receptors, and impacts would be **less than significant**.

Health Impacts of Criteria Air Pollutants

As presented in Table 5.2-7, implementation of the MWMP would generate criteria air pollutant emissions that would not exceed the SDAPCD mass-daily emission thresholds for VOC, CO, SO_x, PM_{10}, or $PM_{2.5}$. However, the SDAPCD daily screening-level threshold for NO_x would be exceeded during maximum daily MWMP implementation. As presented in Table 5.2-1, the SDAB is a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ under the NAAQS and/or CAAQS.

VOCs and NO_x are precursors to O_3, for which the SDAB is designated as nonattainment with respect to the NAAQS and CAAQS. The health effects associated with O_3 are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SDAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O_3 ambient air quality standards tend to occur between April and October when solar radiation is highest. The holistic effect of a single project's emissions of O_3 precursors is speculative because of the lack of quantitative methods to assess this impact. Nonetheless, because

NO_x emissions associated with MWMP implementation would exceed the SDAPCD mass daily construction screening-level threshold, it could minimally contribute to regional O_3 concentrations and the associated health impacts. Accordingly, impacts would be **potentially significant** (**AQ-1**).

Although MWMP implementation would generate NO_x emissions that would exceed the SDAPCD mass daily thresholds, MWMP-proposed maintenance activities are not anticipated to contribute to exceedances of the NAAQS and CAAQS for NO_2 because the SDAB is designated as in attainment of the NAAQS and CAAQS for NO_2, and the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Health impacts that result from NO_2 and NO_x include respiratory irritation; however, because the majority of the MWMP activities would be short term activities, nearby receptors would not be exposed off-road equipment exhaust for a prolonged period of time. Therefore, potential health impacts associated with NO_2 and NO_x would be **less than significant**.

CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots were discussed previously and are determined to be a **less-than-significant** impact. Thus, the MWMP's CO emissions would not contribute to significant health effects associated with this pollutant.

Construction activities associated with the MWMP would not exceed thresholds for PM_{10} or $PM_{2.5,}$ would not contribute to exceedances of the NAAQS and CAAQS for particulate matter, and would not obstruct the SDAB from coming into attainment for these pollutants. The MWMP would also not result in substantial DPM emissions during construction and, therefore, would not result in significant health effects related to DPM exposure. Because the minimal contribution of particulate matter during construction, health impacts would be **less than significant**.

Because estimated emissions resulting from implementation of 10 concurrent maintenance activities would exceed the SDAPCD screening-level threshold for NO_x construction (Impact **AQ-1**), the MWMP could result in a **potentially significant (AQ-1)** contribution to regional concentrations of non-attainment pollutants, absent mitigation.

Valley Fever Exposure

As discussed in Section 5.2.2, Existing Conditions, Valley Fever is not highly endemic to the County, and within the County, the incidence rate in the MWMP area is below the statewide average. In addition, the Coccidioidomycosis (valley fever) incidence rate is also less than the County average in 26 of the 30 potential zip codes where MWMP maintenance activity would occur. Implementation of the maintenance activities would comply with SDAPCD Rule 55, which limits the amount of fugitive dust generated during construction, which would also reduce disturbance of potential *Coccidioides*

immitis fungal spores.[7] A strategy the MWMP would implement to comply with SDAPCD Rule 55 and control dust includes watering two times per day. Based on the low incidence rate of Coccidioidomycosis in the MWMP area and in greater San Diego County, and the MWMP's implementation of dust control strategies, it is not anticipated that earth-moving activities during proposed maintenance activities would result in exposure of nearby sensitive receptors to Valley Fever. Therefore, the MWMP would have a **less-than-significant** impact with respect to Valley Fever exposure for sensitive receptors.

Issue 3: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Project-Level Analysis (FMPs)

Implementation of proposed MWMP maintenance activities would result in the emission of diesel fumes and other odors typically associated with off-road equipment and construction-related activities. These compounds would be emitted in varying amounts on the MWMP area depending on where construction activities are occurring. Sensitive receptors located in the vicinity of the construction site may be affected; however, odors are highest near the source and would quickly dissipate. Although odor impacts are unlikely, the MWMP would be required to comply with the SDAPCD odor policies, including Rule 51 (Public Nuisance).

Any other emissions (such as those leading to odors) associated with project-level MWMP maintenance activities would be temporary and would cease upon completion; therefore, impacts associated with other emissions (such as those leading to odors) would be **less than significant.**

Issue 4: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

Project-Level Analysis (FMPs)

Proposed maintenance activities would result in a temporary addition of pollutants to the local airshed caused by soil disturbance, fugitive dust emissions, and combustion pollutants from construction equipment at maintenance activity sites, as well as from off-site trucks hauling excavated earth materials. Construction emissions could vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing

[7] As noted previously, the inhalation of the spores of the *Coccidioides immitis* fungus can result in a contraction of the fungal infection Coccidioidomycosis.

weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

As previously discussed, criteria air pollutant emissions associated with implementation of proposed maintenance activities were quantified using CalEEMod, version 2016.3.2. A detailed depiction of the construction schedule, including information regarding phasing, equipment used during each phase, haul trucks, vendor trucks, and worker vehicles, is included in the *Air Quality and Greenhouse Gas Technical Report* (Appendix C).

Maintenance activities must adhere to SDAPCD Rules 50 (Visible Emissions), 51 (Nuisance), and 55 (Fugitive Dust) during construction-related activities, which would assist in minimizing MWMP-generated fugitive dust emissions.

For the purpose of this air quality analysis, all MWMP activities are evaluated as short-term construction-related activities and are compared to the SDAPCD daily construction screening-level thresholds for criteria air pollutants, which are the same as the SDAPCD daily operational screening-level thresholds, to determine the MWMP's potential to result in significant impacts to air quality.

Table 5.2-6 presents the estimated maximum unmitigated daily construction emissions generated during implementation of the 10 representative projects evaluated, including the nine maintenance activity categories and Tijuana River Smuggler's Gulch project.

Table 5.2-6
Estimated Maximum Daily Construction
Emissions By Representative Project (Unmitigated)

Representative Project ID	Maintenance Activity Category	VOCs	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
		Pounds per Day					
1	Concrete with Vegetation Removal (20% or more vegetated)	3.20	25.86	24.67	0.04	2.23	1.67
2	Concrete with Vegetation Removal (less than 20% vegetated)	4.01	37.43	29.05	0.06	2.82	2.09
3	Minor concrete repair	1.63	13.91	12.46	0.02	1.01	0.85

Table 5.2-6
Estimated Maximum Daily Construction
Emissions By Representative Project (Unmitigated)

Representative Project ID	Maintenance Activity Category	VOCs	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
		Pounds per Day					
4	Major concrete repair	1.94	17.10	14.32	0.03	1.43	0.99
5	Earthen Facility Typical – 1	3.68	35.50	26.51	0.06	2.85	1.92
6	Earthen Facility Typical – 2	4.46	54.35	27.72	0.10	34.33	19.14
7	Earthen Facility Typical – 3	5.86	53.59	40.12	0.08	6.60	4.54
8	Earthen Facility Typical – 4	4.88	42.33	29.76	0.05	5.61	3.98
9	Earthen Facility Typical Outlet/Inlet Structure	0.77	6.24	6.17	0.01	0.70	0.36
10	Tijuana River Smuggler's Gulch Project	6.49	64.10	38.79	0.10	42.53	7.51

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
See Appendix A to EIR Appendix C for complete results.
Year 2018 was conservatively assumed to represent the year of construction.
The PM_{10} and $PM_{2.5}$ estimates reflect control of fugitive dust consistent required by SDAPCD Rule 55.

As previously discussed in Approach and Methodology, it is anticipated that a maximum of 10 maintenance activities would be implemented concurrently (i.e., within the same day). The 10 concurrent maintenance activities would include one occurrence of representative projects 1, 2, 3, 4, 5, 7, 8, and 10, and two occurrences of representative project 9. Representative project 6 is not included in the maximum concurrent scenario because only one earthen facility typical 1 and 2 would occur at a time. Table 5.2-7 presents the estimated maximum unmitigated daily construction emissions generated during implementation of the 10 concurrent maintenance activities, and compares estimated total daily emissions to the SDAPCD screening-level thresholds.

Table 5.2-7
Estimated Maximum Daily Construction Emissions from Concurrent Project Implementation (Unmitigated)

Representative Project ID	Maintenance Activity Category	Occurrence	VOCs	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
			Pounds per Day					
1	Concrete with Vegetation Removal (20% or more vegetated)	1	3.20	25.86	24.67	0.04	2.23	1.67
2	Concrete with Vegetation Removal (less than 20% vegetated)	1	4.01	37.43	29.05	0.06	2.82	2.09
3	Minor Concrete Repair	1	1.63	13.91	12.46	0.02	1.01	0.85
4	Major Concrete Repair	1	1.94	17.10	14.32	0.03	1.43	0.99
5	Earthen Facility Typical – 1	1	3.68	35.50	26.51	0.06	2.85	1.92
7	Earthen Facility Typical – 3	1	5.86	53.59	40.12	0.08	6.60	4.54
8	Earthen Facility Typical – 4	1	4.88	42.33	29.76	0.05	5.61	3.98
9	Earthen Facility Typical Outlet/Inlet Structure	2	1.54	12.48	12.34	0.03	1.41	0.72
10	Tijuana River Smuggler's Gulch (two segments)	1	6.49	64.10	38.79	0.10	42.53	7.51
Maximum Daily Emissions			**33.22**	**302.30**	**228.03**	**0.49**	**66.50**	**24.27**
SDAPCD threshold			*137[a]*	*250*	*550*	*250*	*100*	*55*
Threshold exceeded?			*No*	***Yes***	*No*	*No*	*No*	*No*

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SDAPCD = San Diego County Air Pollution Control District.

[a] VOC threshold based on the significance thresholds recommended by the Monterey Bay Air Resources District for the North Central Coast Air Basin, which has similar federal and state attainment status as the SDAB for O_3.

See Appendix A to EIR Appendix C for complete results.

Year 2018 was conservatively assumed to represent the year of construction.

The PM_{10} and $PM_{2.5}$ estimates reflect control of fugitive dust consistent required by SDAPCD Rule 55.

Representative project 6 is not included as it is not included in the maximum concurrent project assumptions.

As shown in Table 5.2-7, estimated maximum daily MWMP-generated emissions would not exceed the SDAPCD construction thresholds for VOCs, CO, SOx, PM10, or PM2.5. MWMP-generated emissions would exceed the SDAPCD construction threshold for NOx.

In analyzing cumulative impacts from the MWMP, the analysis must specifically evaluate the MWMP's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If the MWMP does not exceed thresholds and is determined to have less-than-significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the MWMP's proposed maintenance activities, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, the MWMP would only be considered to have a significant cumulative impact if its contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

The SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$, The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SDAB. As discussed in Issue 2, the emissions of NO_x would be above SDAPCD thresholds before mitigation.

The combined emissions of the 10 concurrent maintenance activities, which represent the maximum daily construction scenario, exceed the project-level SDAPCD significance threshold for NO_x prior to implementation of mitigation. Should other projects occur in the vicinity of the MWMP, significant effects related to NO_x emissions could be further intensified due to roadway emissions from motor vehicles proximate to many MWMP segments; therefore, this impact would be **potentially significant** (**AQ-2**), absent mitigation.

5.2.7 PROGRAM-LEVEL ANALYSIS (OTHER MWMP ACTIVITIES)

Programmatic activities would include minor maintenance activities, changed conditions or new/substantially amended FMPs, new compensatory mitigation sites (see Section 5.3, Biological Resources), and emergency maintenance or repair. Under the MWMP, these additional programmatic activities would be subject to the review and approval processes outlined in the MWMP.

Similar to project activities analyzed above, programmatic activities, such as minor maintenance, establishing a new compensatory mitigation site, and emergency maintenance and repair, all have the ability to generate emissions. As stated in Section 5.2.5, Approach and Methodology, representative projects were used to conservatively estimate potential impacts to air quality from different types of MWMP activities. The representative projects are intended to represent a

maximum, or most conservative, scenario associated with the different types of activities, including programmatic maintenance activities, which would occur under the MWMP.

Maintenance specifications of each programmatic activity would vary depending on subject site characteristics, maintenance or improvement needs, and type of proposed solution; however, maintenance requirements for activities within the same category are not expected to differ substantially. Because several of the proposed projects address similar issues, the proposed solutions include similar procedures, many of which are techniques the City has historically used to resolve common issues, including routine activities that do not require advanced planning or design. Therefore, although activities would differ from the exact scenarios analyzed in this Environmental Impact Report, the modeled representative projects and estimated maximum air pollutant emissions included herein represent a conservative assessment of impacts to air quality associated with anticipated activities.

As discussed above under Issue 1, the MWMP would not change land uses or result in development exceeding what is projected in the SIP or RAQS. As such, vehicle trip generation and planned development for the various MWMP-proposed activities is considered to be anticipated by the SIP and RAQS. Because the proposed MWMP activities and associated vehicle trips are anticipated in local air quality plans, the MWMP would be consistent at a regional level with the underlying growth forecasts in the RAQS. Therefore, the MWMP would not conflict with an applicable air quality plan, and this impact would be **less than significant**.

For Issue 2, program-level maintenance activities would take place at multiple locations and would not result in long-term localized emissions of CO, TACs, or Valley Fever; however, because estimated emissions resulting from implementation of concurrent maintenance activities would exceed the SDAPCD screening-level threshold for NO_x for construction, the MWMP could result in a **potentially significant (AQ-1)** contribution to regional concentrations of non-attainment pollutants, absent mitigation.

As discussed under Issue 3, the MWMP would not generate a long-term source of other emissions (such as those leading to odors), but may expose nearby sensitive receptors to short-term construction-related odors, such as diesel emissions. These emissions would disperse quickly from the project site. Program-level maintenance would also not result in long-term sources of other emissions (such as those leading to odors) such as a change in land use, or use methods that would result in other emissions (such as those leading to odors) greater than those anticipated for project-level activities. Therefore, impacts would be **less than significant** and no mitigation is required.

Regarding Issue 4, similar to project-level maintenance activities, program-level maintenance activities would take place at multiple locations concurrently. Air pollutant emissions would vary day-to-day as a result of how many maintenance activities are occurring at once. The maximum daily air

pollutant emissions would exceed the City's NO_x threshold if four or more activities were occurring concurrently.[8] The combined emissions of the 10 concurrent maintenance activities (project- or program-level), which represent the maximum daily construction scenario, would exceed the SDAPCD significance threshold for NO_x prior to implementation of mitigation. Should other projects occur in the vicinity of the MWMP, significant effects related to NO_x emissions could be further intensified due to roadway emissions from motor vehicles proximate to many MWMP segments; therefore, this impact would be **potentially significant** (**AQ-2**) absent mitigation.

5.2.8 SIGNIFICANCE OF IMPACT

As discussed under Issue 1, project- and/or program-level maintenance activities under the MWMP would not change land uses or result in development exceeding what is projected in the SIP or RAQS, therefore it would not conflict with an applicable air quality plan and the impact would be **less than significant**.

As discussed under Issue 2, project- and/or program-level concurrent maintenance activities would exceed the SDAPCD screening-level threshold for NO_x for construction (Impact AQ-1), therefore the MWMP could result in a **potentially significant** contribution to regional concentrations of non-attainment pollutants **(AQ-1),** absent mitigation**.**

As discussed under Issue 3, project- and/or program-level maintenance activities under the MWMP would not generate a long-term source of other emissions (such as those leading to odors), or use methods that would result in odor greater than those anticipated for project-level activities, therefore impacts would be **less than significant**.

As discussed under Issue 4, project- and/or program-level maintenance activities would take place at multiple locations, resulting in varying air pollutant emissions that could potentially exceed the City's NO_x threshold. The combined emissions of the 10 concurrent project- and/or program-level maintenance activities would exceed the SDAPCD significance threshold for NO_x, which when combined with other projects in the vicinity of the MWMP, this impact would be **potentially significant (AQ-2),** absent mitigation.

5.2.9 MITIGATION MEASURES

To reduce potentially significant impacts for Issues 2 (**AQ-1**) and 4 (**AQ-2**), **MM-AQ-1** is required.

[8] This reflects a conservative estimate based on the four largest projects. Project-level activities are not expected to increase maximum daily or annual activities as those scenarios were based on the City's staff and equipment capacity.

MM-AQ-1 **Tier 4 Interim Construction Equipment.** Prior to the commencement of any four or more concurrent construction activities, the City of San Diego Transportation & Storm Water Department (TSW) or its designee shall sum the estimated corresponding maximum daily construction nitrogen oxide (NO_x) emissions from Table 5.2-6, Estimated Maximum Daily Construction Emissions By Representative Project (Unmitigated), to determine if the combined emissions exceed the San Diego Air Pollution Control District (SDAPCD) construction threshold of 250 pounds per day for NO_x. If the combined NO_x emissions exceed the SDAPCD threshold, TSW or its designee shall provide evidence that, for off-road equipment with engines rated at 75 horsepower or greater, no equipment shall be used that is less than Tier 4 Interim. An exemption from these requirements may be granted if TSW documents that equipment with the required tier is not reasonably available and corresponding reductions in criteria air pollutant emissions are achieved from other construction equipment. Before an exemption may be considered by the Environmental Designee/Mitigation Monitoring Coordination, TSW shall be required to demonstrate that three construction fleet owners/operators in the San Diego region were contacted and that those owners/operators confirmed Tier 4 Interim equipment could not be located within the San Diego region. If Tier 4 Interim equipment is not reasonably available, then all diesel-powered equipment, equal to or greater than 75 horsepower, shall have at least California Air Resources Board-certified Tier 3 engines with the most effective Verified Diesel Emission Control Strategies available for the engine type, such as Level 3 Diesel Particulate Filters (Tier 4 engines automatically meet this requirement), which provides an equivalent reduction.

No mitigation measures are required for impacts related to Issue 1 or Issue 3.

5.2.10 SIGNIFICANCE AFTER MITIGATION

To reduce NO_x emissions from implementation of MWMP maintenance activities, **MM-AQ-1**, requiring Tier 4 Interim construction equipment, would be implemented (Table 5.2-8).

Table 5.2-8
Estimated Maximum Daily Construction Emissions (Mitigated)

Representative Project ID	Maintenance Activity Category	Occurrence	VOCs	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
			Pounds per Day					
1	Concrete with Vegetation Removal (20% or more vegetated)	1	0.82	15.54	25.79	0.04	0.58	0.19
2	Concrete with Minimal Vegetation Removal (less than 20% vegetated)	1	1.54	19.80	30.91	0.06	1.23	0.54
3	Minor Concrete Repair	1	0.41	7.34	13.08	0.02	0.18	0.07
4	Major Concrete Repair	1	0.68	8.82	14.64	0.03	0.50	0.18
5	Earthen Facility Typical– 1	1	1.21	22.67	28.57	0.06	1.27	0.37
7	Earthen Facility Typical – 3	1	1.55	28.18	42.74	0.08	3.84	1.87
8	Earthen Facility Typical– 4	1	1.30	22.96	31.39	0.05	4.49	2.95
9	Earthen Facility Typical Outlet/Inlet Structure	2	0.72	7.95	12.78	0.03	0.99	0.33
10	Tijuana River Smuggler's Gulch (two segments)	1	2.44	35.45	43.92	0.10	39.94	5.03

Table 5.2-8
Estimated Maximum Daily Construction Emissions (Mitigated)

Representative Project ID	Maintenance Activity Category	Occurrence	VOCs	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
			Pounds per Day					
Maximum Daily Emissions			**10.67**	**168.71**	**243.82**	**0.47**	**53.02**	**11.53**
SDAPCD Threshold			*137*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?			*No*	*No*	*No*	*No*	*No*	*No*

Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter; SDAPCD = San Diego County Air Pollution Control District.
See Appendix A to Appendix C for complete results.
VOC threshold based on the significance thresholds recommended by the Monterey Bay Air Resources District for the North Central Coast Air Basin, which has similar federal and state attainment status as the SDAB for O_3.
Year 2018 was conservatively assumed to represent the year of construction.
The PM_{10} and $PM_{2.5}$ estimates reflect control of fugitive dust consistent with required by SDAPCD Rule 55.
Emissions from Tier 4 Interim engines, which are required for MM-AQ-1, decrease NO_x emissions, but result in increases in other pollutants (i.e., CO and SO_x).

Following implementation of **MM-AQ-1**, NO_x emissions would be reduced to a level below the SDAPCD threshold, which serves as both a screening-level threshold for direct impacts and a threshold indicating a cumulatively considerable contribution to air quality impacts. Additionally, the MWMP would not regularly include 10 concurrent projects, and would normally represent NO_x emissions far below the SDAPCD screening threshold. The MWMP would also include projects in various locations around the City, and would not represent a localized source of significant emissions. As such, impacts regarding NO_x emissions during maintenance activities would be below the thresholds of significance, and Issues 2 and 4 impacts regarding NO_x emissions would be **less than significant** after mitigation.

For Issues 1 and 3, impacts would remain **less than significant** without mitigation.

5.3 BIOLOGICAL RESOURCES

5.3.1 INTRODUCTION

This section describes the existing biological resources of the *Municipal Waterways Maintenance Plan* (MWMP); identifies the applicable regulatory requirements; evaluates potential impacts associated with biological resources that would result from the proposed MWMP, identifies mitigation measures, as necessary, to reduce the level of impact associated with implementation of the proposed MWMP; and identifies the level of significance after mitigation.

Information and data used throughout this section are primarily based on the *Biological Resources Technical Report (BTR) for the MWMP*, prepared by Dudek, dated November 2019 and included as Appendix D. The BTR includes an evaluation of impacts associated with proposed MWMP project Facility Maintenance Plan (FMPs) consisting of 66 facility groups based on applicable regulations, literature and data review, field surveys, and various analyses. Using this report, this section provides a project-level analysis of those proposed MWMP FMPs and a program-level analysis of proposed MWMP programmatic activities.

5.3.2 EXISTING CONDITIONS

The MWMP Project Area is located on the Del Mar, Escondido, Imperial Beach, La Jolla, La Mesa, Otay Mesa, Point Loma, Poway, and National City, California, U.S. Geological Survey 7.5-minute topographic quadrangles.

Biological Resources

A total of 47 vegetation communities and/or land cover types were observed in the 2,331-acre MWMP study area that includes a 300-foot buffer around MWMP facilities. All vegetation communities, including sensitive communities (Tier I–III and Wetlands), occurring in the study area are identified in Table 5.3-1 and described in the BTR (Appendix D). A program-level jurisdictional delineation was conducted within the MWMP study area to determine the extent of wetlands and non-wetland waters potentially under the jurisdiction of the U.S. Army Corps of Engineers (USACE), San Diego Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), and California Coastal Commission (CCC). A total of 230 acres of wetlands and non-wetland waters were identified in the MWMP study area (Table 5.3-1). Potential jurisdictional non-wetland waters and wetlands may support multiple functions and services in addition to providing habitat for plants and wildlife species, including flood storage/attenuation, pollutant filtration, and ground water recharge. A total of 127 species of vascular plants, 82 native (65%) and 45 non-native (35%), were recorded during the biological reconnaissance surveys for the MWMP.

Table 5.3-1
Vegetation Communities and Land Cover Types in MWMP Study Area

City of San Diego Biology Guidelines Vegetation Community	Watershed								Total Acres
	San Dieguito River	*Los Peñasquitos*	*Mission Bay*	*San Diego River*	*Pueblo San Diego*	*Sweetwater*	*Otay*	*Tijuana River*	
Tier I									
Oak Woodland	–	–	–	0.09	1.13	–	–	–	1.22
Scrub Oak Chaparral	–	–	–	2.06	–	–	–	–	2.06
Tier I Subtotal	–	–	–	*2.16*	*1.13*	–	–	–	*3.28*
Tier II									
Coastal Sage Scrub/Chaparral	–	–	–	8.69	–	–	–	–	8.69
Diegan Coastal Sage Scrub	–	19.20	19.78	11.35	31.01	–	–	4.61	85.94
Tier II Subtotal	–	*19.20*	*19.78*	*20.03*	*31.01*	–	–	*4.61*	*94.63*
Tier IIIA									
Chaparral	–	0.21	–	28.01	0.37	–	–	0.01	28.61
Tier IIIB									
Non-Native Grassland	–	0.01	–	–	15.21	–	–	0.21	15.42
Tier IV									
Agriculture	0.67	–	–	–	–	–	–	7.72	8.39
Disturbed Land	0.78	10.40	9.99	28.64	49.14	–	30.38	36.82	161.44
Eucalyptus Woodland	1.08	2.53	10.01	3.95	8.30	–	0.24	2.33	28.40

Table 5.3-1
Vegetation Communities and Land Cover Types in MWMP Study Area

City of San Diego Biology Guidelines Vegetation Community	Watershed								Total Acres
	San Dieguito River	*Los Peñasquitos*	*Mission Bay*	*San Diego River*	*Pueblo San Diego*	*Sweetwater*	*Otay*	*Tijuana River*	
Ornamental Planting	5.79	18.12	27.00	38.43	67.67	2.10	1.75	29.79	190.65
Urban/Developed	75.62	158.81	142.20	318.25	594.76	21.38	106.23	161.96	1,570.03
Tier IV Subtotal	*83.94*	*189.87*	*189.21*	*389.24*	*719.88*	*23.48*	*138.60*	*238.61*	*1,958.92*
Wetland[3]									
Coastal Salt Marsh	–	2.65	–	–	–	–	–	–	2.65
Disturbed Wetland	0.15	0.08	–	3.35	1.32	–	2.37	0.72	7.99
Disturbed Wetland (Invasive-dominated[4])	–	1.14	0.19	1.51	4.98	–	0.37	0.40	8.59
Disturbed Wetland (unvegetated concrete-lined channel)	3.66	5.96	3.84	9.59	18.07	1.00	1.72	3.59	47.29
Freshwater Marsh	0.06	1.66	0.57	0.86	1.59	–	0.68	1.90	7.31
Natural Flood Channel	0.10	1.67	1.02	1.34	6.83	–	0.35	5.28	16.41
Riparian Forest	0.27	21.75	0.07	7.70	3.75	–	3.24	76.47	113.05

Table 5.3-1
Vegetation Communities and Land Cover Types in MWMP Study Area

City of San Diego Biology Guidelines Vegetation Community	Watershed								Total Acres
	San Dieguito River	*Los Peñasquitos*	*Mission Bay*	*San Diego River*	*Pueblo San Diego*	*Sweetwater*	*Otay*	*Tijuana River*	
Riparian Scrub	–	0.95	0.74	1.28	0.49	–	–	22.78	26.25
Wetland Subtotal	*4.24*	*35.99*	*7.40*	*25.62*	*37.24*	*1.00*	*8.73*	*111.14*	*231.36*
Total	**88.17**	**245.27**	**216.40**	**464.06**	**804.83**	**24.48**	**132.91**	**354.58**	**2,331.71**

Notes:

[1] City MSCP Subarea Plan "Tiers" and wetland identification are from City Biology Guidelines (City of San Diego 2018).

[2] Totals may not sum due to rounding.

[3] City Wetland habitat within the MWMP is typically also under the jurisdiction of USACE, RWQCB, CDFW, and CCC (when it occurs in Coastal Overlay Zone).

[4] Areas are mapped as invasive-dominated support at least 80% cover of invasive species.

The MWMP study area supports habitat for upland and riparian wildlife species. Chaparral, coastal scrub, woodland, riparian, and non-native habitats (e.g., eucalyptus and non-native grassland) within the study area provide foraging and nesting habitat for migratory and resident bird species and other wildlife species. Chaparral, coastal scrub, and woodlands within the MWMP study area provide cover and foraging opportunities for wildlife species, including reptiles and mammals. There were 192 individual wildlife sightings observed during studies conducted for the MWMP. Of the 192 observations, 82 different wildlife species were observed, 10 (12.2%) of which are considered sensitive (and 6 are Multiple Species Conservation Program [MSCP] Covered Species). A total of 68 birds, 4 mammals, 4 invertebrates, 3 reptiles, 2 amphibians, and 1 fish, were recorded during the biological reconnaissance surveys for the MWMP study. Counts of wildlife species observed within each watershed is included in Table 5.3-2.

Table 5.3-2
Wildlife Diversity Within the MWMP Study Area

Watershed	Wildlife Species (count)	Sensitive Species (count [percent of total])
San Dieguito	12	0
Los Peñasquitos	38	6 (15.8%)
Mission Bay	13	0
San Diego River	29	3 (10.3%)
Pueblo San Diego	37	3 (8.1%)
Sweetwater	7	0
Otay	11	3 (27.3%)
Tijuana River	45	9 (20.0%)
Total	**192**	**24**

Approximately 228 acres of the MWMP Study Area are either partially or fully within the City of San Diego's (City) Multi-Habitat Planning Area (MHPA) and, therefore, potentially provide connectivity through natural creeks and tributaries, as well as larger corridors. Several of the facility groups and structures as part of the MWMP also occur in or partially overlap with MSCP biological core and linkage areas, including the following:

- Los Peñasquitos Canyon (two channel facility segments)
- Los Peñasquitos Lagoon/Soledad Canyon Creek (several channels/ditches, one basin, and one structure facility)
- San Diego River (several channels/ditches and structure facilities)
- Tijuana River Valley (two channel facility segments)

Approximately 452 acres of the MWMP Study Area are within the City's Coastal Overlay Zone (COZ) and, therefore, are subject to coastal zone standards. Facilities within the COZ include the following:

- Los Peñasquitos Canyon Creek – 5–805 Basin
- Los Peñasquitos Lagoon – Industrial
- Los Peñasquitos Lagoon – Tripp
- Soledad Canyon Creek – Sorrento
- Soledad Canyon Creek – Flintkote
- Soledad Canyon Creek – Dunhill
- 10405 Sorrento Valley Road
- Mission Bay – Mission Bay High School (MBHS)
- Mission Bay – Mission Bay Drive
- San Diego River – Valeta
- Nestor Creek – Nestor
- Tijuana River – Tocayo
- Tijuana River – Pilot and Smuggler's

5.3.3 REGULATORY SETTING

Federal

National Environmental Policy Act

The National Environmental Policy Act (NEPA) established a national policy for protection of the environment. The objectives of NEPA are as follows: "To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality" (42 United States Code [USC] 4321). To assist federal agencies in fulfilling the goals and effectively implementing the requirements of NEPA, in 1978 the Council on Environmental Quality issued regulations for implementing the procedural aspects of NEPA (40 CFR Part 1500–1508).

Review of the proposed MWMP under NEPA is only anticipated to be required as part of USACE consideration of an authorization(s) under Section 404 of the federal Clean Water Act. No other federal funding or federal agency actions are anticipated to be required or utilized to implement the MWMP.

Federal Endangered Species Act

Under the federal Endangered Species Act of 1973 (ESA), the Secretary of the Interior and the Secretary of Commerce jointly have the authority to list a species as threatened or endangered (16 USC 1533(c)). Pursuant to the requirements of the ESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed threatened or endangered species may be present in the planning area, and determine whether the proposed project would have a potentially significant impact on such species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under the ESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536(3)(4)). The United States Fish and Wildlife Services (USFWS) and the National Oceanic and Atmospheric Administration National Marine Fisheries Service are responsible for implementation of the federal ESA.

This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. Under provisions of Section 9 (16 USC 1538(a)(1)(B)) of ESA, it is unlawful to "take" any listed species. "Take" is defined in Section 3 (16 USC 1532(19) of ESA as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

The federal ESA allows for the issuance of "incidental take" permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement. Incidental take is defined as "take that results from, but is not the purpose of, carrying out an otherwise lawful activity" (USFWS 2004). Upon development of a habitat conservation plan, USFWS can issue incidental take permits for listed species.

USFWS also publishes a list of candidate species. Species on this list receive special attention from federal agencies during environmental review, although they are not protected otherwise under the federal ESA. The candidate species are those for which USFWS has sufficient biological information to support a proposal to list as endangered or threatened.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of

bird species covered by the MBTA is extensive; the species are listed in Title 50 of the Code of Federal Regulations (CFR), Part 10.13. The regulatory definition of "migratory bird" is broad and includes any mutation or hybrid of a listed species, and also includes any part, egg, or nest of such birds (50 CFR 10.12). Migratory birds are not necessarily federally listed endangered or threatened birds under the ESA.

The MBTA prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursue, hunt, shoot, wound, kill trap, capture, or collect, or any attempt to carry out these activities (16 USC 703 et seq.). Additionally, Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds," requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 Federal Register (FR) 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species. Currently, birds are considered to be nesting under the MBTA only when there are eggs or chicks, which are dependent on the nest.

Federal Wetland Regulation

Federal wetland regulation applicable to the MWMP is guided by the Clean Water Act (CWA). The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the United States. Permitting for projects that propose dredge and fill activities in waters of the United States (including wetlands) is overseen by USACE under Section 404 of the CWA. Projects are typically permitted on an individual basis or are covered under one of several approved general or nationwide permits. In addition, under Section 401 of the CWA, an applicant for a federal permit for an activity that may result in a discharge to a water body must obtain certification from the state that the proposed activity will comply with state water quality standards and water quality objectives. Section 401 provides the Regional Water Quality Control Board (RWQCB) with regulatory authority to certify or deny the proposed activity. A Section 401 certification must be obtained from the RWQCB prior to issuance of a 404 Permit by USACE.

U.S. Army Corps of Engineers

Pursuant to Section 404 of the CWA, USACE regulates the discharge of dredged and/or fill material into "waters of the United States." The term "wetlands" (a subset of waters) is defined in 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In the absence of wetlands, the limits of USACE

jurisdiction in non-tidal waters, such as intermittent streams, extend to the "ordinary high water mark," which is defined in 33 CFR 328.3(e).

State

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires identification of a project's potentially significant impacts on sensitive biological resources and feasible mitigation measures and alternatives that could avoid or reduce significant impacts. CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors" (14 California Code of Regulations 15000 et seq.). A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c). CEQA also requires identification of a project's potentially significant impacts on riparian habitats (such as wetlands, bays, estuaries, and marshes) and other sensitive natural communities, including habitats occupied by endangered, rare, and threatened species.

California Endangered Species Act

The California Endangered Species Act (CESA) establishes state policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. Under the CESA, CDFW is responsible for maintaining a list of threatened species and endangered species (California Fish and Game Code [CFGC] Section 2070). CDFW administers CESA (CFGC Section 2050 et seq.), which prohibits the "take" of plant and animal species designated by the Fish and Game Commission as endangered or threatened in the State of California. Under California Fish and Game Code Section 86, take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA Section 2053(a) stipulates that state agencies may not approve projects that will "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy."

CESA Sections 2080 through 2085 address the taking of threatened, endangered, or candidate species. CFGC Section 2080 states, "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided in this chapter, the Native Plant Protection Act (CFGC Sections 1900–1913), or the California Desert Native Plants Act (Food and Agricultural Code, Section 80001)."

CDFW also maintains a list of candidate species, which are species that CDFW has formally noticed as under review for addition to the threatened or endangered species list. CDFW also maintains lists of Species of Special Concern, which serve as watch lists. Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the area, and determine whether the proposed project would have a potentially significant impact on such species. CDFW encourages informal consultation on any proposed project that may impact a candidate species.

California Coastal Act

The California Coastal Commission (CCC) was established by voter initiative in 1972 and was made permanent by the California Legislature through the adoption of the California Coastal Act of 1976 (Public Resources Code Section 30000 et seq.). The CCC, in partnership with coastal cities and counties, plans and regulates the use of land and water in the COZ. Under the California Coastal Act (CCA), cities and counties are responsible for preparing Local Coastal Programs (LCPs) as a precondition to obtain authority to issue coastal development permits (CDPs) for projects within their jurisdiction. LCPs consist of land use plans, zoning ordinances, zoning maps, and other implementing actions that conform to the policies of the CCA. Until an agency has a certified (i.e., approved) LCP, the CCC is responsible for issuing CDPs.

The CCC reviews the portions of a project within the COZ that require a CCC permit or are eligible for appeal to the CCC. For a coastal development permit to be issued, the CCC requires findings of project consistency with specific CCA conditions related to public access and recreation, habitat protection, visual resources, and water quality, and many others. Section 30007.5 of the CCA requires the CCC to resolve conflicts between CCA policies in a manner that on balance is most protective of coastal resources.

Under the CCA Section 30107.5, Environmentally Sensitive Areas (ESA) means any area within the COZ "in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." According to CCA Section 30240, "environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses

dependent on those resources shall be allowed within those areas." In addition, the CCC regulates impacts to coastal "wetlands" defined in Section 30121 of the CCA as "lands within the COZ which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens." The CCA requires that most development avoid and buffer coastal wetland resources in accordance with Sections 30231 and 30233, including limiting the diking, dredging, or filling of wetlands to certain allowable uses, and these are only permitted "where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided tom minimize adverse environmental effects" (CCA Section 30233). Vegetation communities within the study area that may be considered ESAs under the CCA include areas within the COZ that support wetlands or coastal sage scrub habitat assumed to be occupied by coastal California gnatcatcher (*Polioptila californica californica*).

The MWMP includes proposed Facility Maintenance Plans (FMPs) at nine channel facility groups that occur in the COZ. These occur within five adopted LCP land use plans, which were certified by CCC (Torrey Pines, Pacific Beach, Peninsula, Otay Mesa-Nestor, and Tijuana River Valley). The CDP approval process will be determined following verification of City versus CCC permit jurisdiction (i.e., deferred certification areas) for each proposed FMP area. However, for purposes of this draft, it is assumed that the City will have jurisdiction to issue a CDP that allows for implementation of all nine proposed FMPs within the COZ. Following City issuance of a CDP for the MWMP, the CDP could be appealed to CCC because multiple segments occur within appealable zones.

California Fish and Game Code

Under the California Fish and Game Code, CDFW provides protection from "take" for a variety of species, including fully protected species. "Fully protected" is a legal protective designation administered by CDFW intended to conserve wildlife species that risk extinction within California. Lists have been created for birds, mammals, fish, amphibians, and reptiles.

According to CFGC Sections 3511 and 4700, which regulate birds and mammals, respectively, a "fully protected" species may not be taken or possessed without a permit from the Fish and Game Commission, and "incidental takes" of these species are not authorized.

According to Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. Finally, Section 3513 states that is unlawful to take or possess any migratory nongame bird as

designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

For the purposes of the state regulations, CDFW Regulation 681.2(a) for CFGC Sections 3503 and 3503.5 currently defines an active nest as one that is under construction, preparing for use, or in use for egg laying. This definition includes existing nests that are being modified. For example, if a hawk is adding to or maintaining an existing stick nest in a transmission tower, then it is considered active and is covered under these the CFGC sections.

CDFW Wetland Regulation

CDFW exercises jurisdiction over waters of the State under CFGC Sections 1600–1616 based on the definition of regulated activity provided in CFGC Section 1602 and the definition of a stream provided in Title 14, Section 1.72 of the California Code of Regulations.

CFGC Section 1602 states, "An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake" without notifying CDFW. Title 14 Section 1.72 of the California Code of Regulations defines a stream as: "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation." This definition includes a broad range of vegetation communities, including some that do not contain wetland species but are in a riparian landscape position. CDFW jurisdiction typically extends to the outer limit of riparian vegetation, or to the top of bank of an unvegetated stream channel.

Under CFGC Section 1603, upon notification, CDFW "shall determine whether the activity may substantially adversely affect an existing fish and wildlife resource." If such a determination is made, CDFW reaches an agreement with the notifying entity (a Streambed Alteration Agreement) that includes measures to protect the resources CDFW has determined the activity may substantially adversely affect.

State and Regional Water Quality Control Board Wetland Regulation

The intent of the Porter–Cologne Water Quality Control Act is to protect water quality and the beneficial uses of water, and it applies to both surface water and groundwater. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the Regional Water Quality Control Boards (RWQCBs) develop basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to

implement the provisions of both statewide and basin plans. Waters regulated under the Porter–Cologne Water Quality Control Act include isolated waters that are no longer regulated by USACE. Developments with impact to jurisdictional waters must demonstrate compliance with the goals of the act by developing Storm Water Pollution Prevention Plans, Standard Urban Storm Water Mitigation Plans, and other measures to obtain a CWA Section 401 certification.

CCC Wetlands Regulation

As described above, the CCC regulates impacts to coastal wetlands, defined in Section 30121 of the CCA as, "lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens." The CCC interprets this definition to mean coastal wetlands exist in any area that meets at least one of three wetland parameters: hydrology, wetland vegetation, or hydric soils. Wetlands are considered ESHA and shall be "protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas." The CCA requires that most development avoid and buffer coastal wetland resources in accordance with Sections 301231 and 30233, including limiting the filling of wetlands to certain allowable uses.

Under the CCA, Section 30240, ESHAs shall be "protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas." Areas that are considered as ESHAs under the CCA include areas within the COZ that support wetlands.

Local

San Diego Multiple Species Conservation Program

The City is a participant in the San Diego MSCP, a comprehensive, regional long-term habitat conservation program designed to conserve biodiversity and achieve certainty in the land development process for private- and public-sector projects within approximately 900 square miles in the southwestern portion of San Diego County (County of San Diego 1998). The MSCP is a cooperative federal, state, and local program for conservation of native vegetation communities to address the habitat needs of multiple species. It serves as an approved habitat conservation plan pursuant to Section 10(a)(2)(A) of the ESA and the California Natural Communities Conservation Planning Act. The MSCP provides permit issuance authority for incidental take of covered species to the local regulatory agencies.

The MSCP is established and implemented within the City's jurisdiction through an Implementing Agreement and approved *City of San Diego MSCP Subarea Plan* (MSCP Subarea Plan) with the wildlife agencies, as well as referenced companion documents such as the Environmentally Sensitive Lands

(ESL) Regulations and San Diego Biology Guidelines (SDBG). An Incidental Take Permit from USFWS establishes the City's authority to take covered species subject to compliance with the MSCP. The MSCP Subarea Plan establishes a preserve system designed to conserve large blocks of interconnected habitat having high biological value that are delineated in the MHPA.

The MSCP identifies 85 plants and animals to be "covered" under the plan (Covered Species). Many of these Covered Species are subject to one or more protective designations under state and/or federal law and some are endemic to San Diego. The MSCP seeks to provide adequate habitat in the preserve to maintain ecosystem functions and persistence of extant populations of the 85 Covered Species while also allowing participating landowners "take" of Covered Species on lands located outside of the preserve. The purpose of the MSCP is to address species conservation on a regional level and thereby avoid project-by-project biological mitigation, which tends to fragment habitat.

The City of San Diego Development Services Department developed the SDBG that describes sensitive biological resources, as defined by the ESL Regulations, as lands within the MHPAs, as well as other lands outside of the MHPA that contain wetlands; vegetation communities classifiable as Tier I, II, IIIA, or IIIB; habitat for rare, endangered, or threatened species; or narrow endemic species. Within the City, the MSCP is implemented through the MSCP Subarea Plan (City of San Diego 1997), which applies within 6,501 acres. Portions of the MWMP are located within and adjacent to MHPAs (City of San Diego 1997).

City of San Diego MSCP Subarea Plan

The MSCP Subarea Plan (1997) encompasses 206,124 acres within the MSCP Subregional Plan area. The MWMP Project Area is located within the northern, urban, southern, and eastern areas of the MSCP Subarea Plan area. In addition, the Plan occurs on lands that are excluded from the MSCP Subarea Plan. The northern area includes the majority of the Los Peñasquitos Lagoon/Canyon del Mar Mesa core, and developed and undeveloped land from Black Mountain Ranch to Lopez Canyon and the North City Future Urbanizing Area. Urban habitat areas within the MHPA include existing designated open space such as Mission Bay, Tecolote Canyon, Marian Bear Memorial Park, Rose Canyon, San Diego River, the southern slopes along Mission Valley, Carroll and Rattlesnake Canyons, Florida Canyon, Chollas Creek, and a variety of smaller canyon systems. The southern area includes Otay Mesa, Otay River Valley, and Tijuana Estuary and Tijuana River Valley. The eastern area includes East Elliott and Mission Trails Regional Park.

The MSCP Subarea Plan is characterized by urban land uses with approximately three-quarters either built out or retained as open space/park system. The City MHPA is a "hard-line" preserve developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies biological core resource areas and corridors targeted for conservation, in which only limited development may occur (City of San Diego 1997). The MHPA

is considered an urban preserve that is constrained by existing or approved development and consists of habitat linkages connecting several large core areas of habitat. The criteria used to define core and linkage areas involves maintaining ecosystem function and processes, including large animal movement. Each core area is connected to other core areas or to habitat areas outside of the MSCP either through common boundaries or through linkages. Core areas have multiple connections to help ensure that the balance in the ecosystem will be maintained (City of San Diego 1997). Critical habitat linkages between core areas are conserved in a functional manner with a minimum of 75% of the habitat within identified linkages conserved (City of San Diego 1997).

As part of the authorization of the MSCP, the City entered into an Implementing Agreement with USFWS and CDFW to ensure protection of "certain plant and animal species that are or may be found in the MSCP Area and which, pursuant to the ESA or CESA or other laws or programs, have been listed as threatened or endangered, have been proposed for listing as threatened or endangered, are candidates for listing as threatened or endangered, or which are otherwise of concern" (City of San Diego 1997). The species that have sufficient coverage under the MSCP are considered Covered Species. Covered Species are also be subject to Take Authorization, granted by these resources agencies in accordance with the Implementing Agreement. If Take Authorization is issued, the species are referred to as Covered Species Subject to Incidental Take, which includes listed species as well as species not presently listed as threatened, endangered, or candidate species. Conserving Covered Species equally under the MSCP, regardless of their listing status, will allow the consideration of any Covered Species subsequently listed under the ESA or CESA in future permitting or mitigation requirements associated with development projects constructed in the MSCP Area.

The SDBG, Section 114 of the San Diego Municipal Code, describes specific development regulations pertaining to sensitive biological resources, including wetlands. The City's definition of wetlands is broader than the definition applied by USACE. Guidelines that supplement the development regulation requirements described in this section are provided in the SDBG (City of San Diego 2018).

City of San Diego Land Development Code – Environmentally Sensitive Lands Regulations

Environmentally Sensitive Land Regulations

The ESL Regulations provide a compliance and implementation mechanism for the MSCP Subarea Plan and its Implementing Agreement. According to the City Land Development Code (LDC) Section 143.0101, the purpose of the ESL Regulations are to "protect, preserve, and, where damaged restore, the ESL of San Diego and the viability of the species supported by those lands" (City of San Diego 2019). Specific development regulations pertaining to sensitive biological resources exist in the LDC in the ESL Regulations and the OR-1-2 Zone.

The ESL Regulations and LDC Section 113.0103 define sensitive biological resources as upland and/or wetland areas that meet any one of the following criteria:

(a) Lands that have been included in the City of San Diego Multiple Species Conservation Program Preserve;

(b) Wetlands;

(c) Lands outside the MHPA that contain Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats;

(d) Lands supporting species or subspecies listed as rare, endangered, or threatened under Section 670.2 or 670.5, Title 14, California Code of Regulations, or the Federal Endangered Species Act, Title 50, Code of Federal Regulations, Section 17.11 or 17.12, or candidate species under the California Code of Regulations;

(e) Lands containing habitats with Narrow Endemic Species as listed in the Biology Guidelines in the Land Development [M]anual; or

(f) Lands containing habitats of covered species as listed in the Biology Guidelines in the Land Development Manual.

This includes lands within the MHPA and other lands outside of the MHPA that contain wetlands; vegetation communities classifiable as Tier I, II, IIIA, or IIIB; habitat for rare, endangered, or threatened species; or narrow endemic species.

In specific scenarios, deviations from the ESL Regulations are allowed. Such allowances include deviations to wetlands regulations for any project that has been demonstrated to be an Essential Public Project, the Economic Viability Option, or the Biologically Superior Option according to the City's LDC Section 143.0150(d). The MWMP would be categorized as an Essential Public Project, since it will consist of the maintenance of public and linear infrastructure for purposes of considering deviations from ESL wetland regulations outside of the Coastal Zone. For projects within the Coastal Zone, deviations from the ESL Regulations requires an applicant to make supplemental findings in accordance with the City's LDC Section 126.0708(b).

City of San Diego Wetland Definition

The extent of City wetland jurisdiction is determined based on the City definition of "wetland" provided in LDC Section 113.0103 that are regulated by the City under the ESL Regulations (Section 143.0141(b)), which states the following:

Wetlands are defined as areas which are characterized by any of the following conditions:

1. All areas persistently or periodically containing naturally occurring *wetland* vegetation communities characteristically dominated by hydrophytic vegetation, including but not limited to salt marsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodlands, riparian scrub, and vernal pools;
2. Areas that have hydric soils or *wetland* hydrology and lack naturally occurring *wetland* vegetation communities because human activities have removed the historic *wetland* vegetation or catastrophic or recurring natural events or processes have acted to preclude the establishment of *wetland* vegetation as in the case of salt pannes and mudflats;
3. Areas lacking *wetland* vegetation communities, hydric soils and *wetland* hydrology due to non-permitted filling of previously existing *wetlands*;
4. Areas mapped as *wetlands* on Map No. C-713 as shown in Chapter 13, Article 2, Division 6 (Sensitive Coastal Overlay Zone).

   It is intended for this definition to differentiate for the purposes of delineating *wetlands*, between naturally occurring *wetlands* and *wetlands* intentionally created by human actions, from areas with *wetlands* characteristics unintentionally resulting from human activities in historically non-wetland areas. With the exception of *wetlands* created for the purpose of providing *wetland* habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating *wetland* characteristics, which are artificially created are not considered *wetlands* by this definition. Taking into account regional precipitation cycles, all adopted scientific, regulator, and technological information available from the State and Federal resource agencies shall be used for guidance on the identification of hydrophytic vegetation, hydric soils and *wetland* hydrology.

Under the definition, an area is considered wetland based on the presence at least one of three physical criteria (vegetation, hydrology, soils) or based on "Map No. C-713 as shown in Chapter 13, Article 2, Division 6" (LDC Section 113.0103). The same code section defines wetland buffers as additional "areas or feature(s) that protects functions and values of the adjacent wetland."

Land Development Manual – Biology Guidelines

The City of San Diego developed the San Diego Biology Guidelines (SDBG) presented in the Land Development Manual "to aid in the implementation and interpretation of the ESL Regulations within the San Diego Municipal Code Chapter 14, Division 1, LDC Section 143.0101 et seq., and the Open

Space Residential (OR-1-2) Zone, Chapter 13, Division 2, LDC Section 131.0201 et seq." (City of San Diego 2018). The guidelines also provide standards for the determination of impact and mitigation under CEQA and the California Coastal Act (CCA).

Chapter 14 of the LDC describes general regulations for development with specific regulations pertaining to environmentally sensitive lands, including wetlands (SDMC Section 143.0141(b)). Guidelines that supplement the development regulation requirements described in this section are provided in the SDBG (City of San Diego 2018). Additional information and explanation is provided in the SDBG for the definition of wetlands, including field delineation references and interpretations for problem areas, artificial wetlands, and other situations. Within the COZ, wetland buffers should be a minimum of 100 feet wide (as determined on a case-by-case basis in consultation with CDFW, USFWS, and USACE) adjacent to a wetland. The width of the buffer is determined by factors such as type and size of development, sensitivity of the wetland resource to edge effects, topography, and the need for upland transition (City of San Diego 2018).

The SDBG also ranks upland habitat values by rarity and sensitivity. The most sensitive habitats are Tier I, and the least sensitive are Tier IV. The varying mitigation ratios and conditions require that mitigation be either in-tier or in-kind are based on the sensitivity of the habitat being affected, with higher ratios being applied to lower Tiers (e.g., highest mitigation ratio requirements for Tier I habitats). In addition, the location of impact inside or outside of the City's MHPA also determines where and how much mitigation is required, with the highest ratios being required for mitigation outside of the MHPA, when the project impacts occur within the MHPA (City of San Diego 2018). Habitat mitigation requirements, along with seasonal grading restrictions, provide protections for sensitive species, with additional species-specific mitigation required for significant impacts to narrow endemic species. Limitations on development in the MHPA also protect wildlife movement corridors (e.g., linear areas of the MHPA less than 1,000 feet wide (City of San Diego 2018).

City of San Diego Public Tree Protection Policy

In 1995, the City recognized the value of developing additional regulations for the community forest when it adopted Resolution No. R-286098 creating the Tree Advisory Board. In 2002, the Tree Advisory Board, now referred to as the Community Forest Advisory Board, began working with City staff to draft an ordinance or policy that would protect community trees, specifically ones that have historical value, by allowing for the designation of these trees as heritage and landmark trees. The purpose of the Public Tree Protection Policy is to provide special policies to protect designated tree resources located in the public rights-of-way, on City-owned open space, in parks or other publicly owned lands, wherever practical. In addition, the policy will apply to private land restricted by dedicated open space easements. The Public Tree Protection Policy provides a tree protection

designation under four categories: landmark trees, heritage trees, parkway resource trees, and preservation grove (City of San Diego 2005).

5.3.4 THRESHOLDS OF SIGNIFICANCE

The City's *California Environmental Quality Act Significance Determination Thresholds* (City of San Diego 2016) and Appendix G of the CEQA Guidelines contain significance guidelines related to biological resources. The following questions are adapted from the City's Significance Thresholds and Appendix G of the CEQA Guidelines, and provide guidance to determine potential significance for biological resources. A potentially significant impact to biological resources may occur if the proposed MWMP would result in:

Issue 1: Would the project result in a substantial adverse impact, either directly or through habitat modifications or introduction of invasive species, on any species identified as a candidate, sensitive, or special-status species in the MSCP or other local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?

Issue 2: Would the project result in a substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development [M]anual or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?

Issue 3: Would the project result in a substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through direct removal, filling, hydrological interruption, or other means?

Issue 4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or impede the use of native wildlife nursery sites?

Issue 5: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, either within the MSCP plan area or in the surrounding region?

Issue 6: Would the project introduce land use within an area adjacent to the MHPA that would result in adverse edge effects?

Issue 7: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The SDBG Appendix I, *Determination Thresholds under CEQA* (City 2018) provides additional guidance and information related to the analysis and determination of direct, indirect and cumulative impacts to biological resources.

5.3.5 APPROACH AND METHODOLOGY

Direct Impacts

A direct impact is a physical change in the environment, which is caused by and immediately related to the project and can result in either permanent loss of on-site habitat and the plant and wildlife species that it contains or temporary loss of these resources. Impacts are considered permanent when a habitat or biological resource is impacted and is not restored to the same or higher value habitat within a short time period (i.e., within a year) following maintenance, such that the functions of that habitat for plants and wildlife species are reduced in the long term (e.g., removal of willow trees as part of routine maintenance). Impacts are considered temporary if the habitat impacted is restored, either passively or actively, to a habitat type of similar or higher value in a short period of time following the impact (e.g., revegetation of a wetland or vegetation community following one-time impacts). Although environmental resources (e.g., wetlands, streambeds) would exist in-place following completion of the MWMP, maintenance, repair, and access activities associated with implementation of the MWMP are still considered permanent impacts for purposes of CEQA (i.e., other regulatory agencies may consider maintenance impacts to be temporary) and could result in direct impacts to biological resources, including the following:

- Direct removal of vegetation and habitat during maintenance activities by means of excavation, grading, vegetation clearing/grubbing/crushing;
- Grading and clearing to create or maintain access routes in previously undisturbed areas to support maintenance activities;
- Grading and clearing for temporary staging and stockpile areas;
- Ground-disturbing activities to remove accumulated sediment;
- Fill and/or dredge activities in jurisdictional resources and encroachment into wetland buffers;
- Human incursion into sensitive habitats;
- Mortality of sensitive wildlife species from vehicular collision;
- Destruction or abandonment of nests.

Lands containing Tier I, II, IIIA, and IIIB (Table 3 from the SDBG) and all wetlands (Tables 2A and 2B from the SDBG) are considered sensitive and declining habitats. As such, impacts to these resources are considered significant, with two exceptions (City of San Diego 2018):

a. Total project (i.e., facility group FMP) upland impacts less than 0.1 acre are not considered significant and do not require mitigation.

b. Project (i.e., facility group FMP) impacts to non-native grasslands totaling less than 1.0 acres that are completely surrounded by existing urban developments are not considered significant and do not require mitigation.

c. Total project wetland impacts (i.e., facility group FMP) less than 0.01 acre are not considered significant and do not require mitigation. This does NOT apply to vernal pools, road pools supporting listed fairy shrimp, or wetlands within the COZ.

d. Mitigation is not required for impacts to non-native grassland habitat when impacted for the purpose of wetland or other native habitat creation.

e. Habitat mitigation is not required for impacts to manufactured slopes or areas that have been planted with native species for the purpose of erosion control. In order to qualify for this exception, substantiation of previous permits and mitigation must be provided in the facility group FMP. This does not apply to noise or wildlife avoidance mitigation requirements, in described in Appendix I of the SDBG.

f. Removal/control of non-native plants is not considered to constitute a significant habitat impact for which compensatory habitat acquisition, preservation, or creation for the area impacted is required. However, mitigation for indirect impacts such as erosion control or off-site infestation by non-native species may still be required.

Lands designated as Tier IV are not considered to have significant habitat value and impacts would not be considered significant. Additionally, lands determined to be non-jurisdictional areas of storm drain infrastructure (e.g., basin or ditch constructed in historic uplands) are considered "artificially created wetlands in historically non-wetland areas" in accordance with the SDBG and, therefore, impacts to these areas would not be considered significant (City of San Diego 2018).

Project wetland impacts greater than 0.01 acres outside the COZ and all wetland impacts within the COZ are considered significant. The only exceptions to this is for wetland areas dominated by non-native, invasive plant species. Examples of the exception include disturbed wetlands dominated by invasive plant species, such as giant reed or Mexican fan palm (*Washingtonia robusta*). Maintenance of drainage facilities that result in the loss of non-native, invasive species are not significant and the impacts do not require compensatory mitigation, according to Appendix I of the SDBG, which states, "(f) Removal/control of non-native plants is not considered a significant habitat impact for which

compensatory habitat acquisition, preservation, or creation for the area impacted is required. Mitigation for indirect impacts such as erosion control or off-site infestation by non-native species may be needed." EPs included as part of the MWMP would minimize potential erosion and off-site invasive infestation. In addition, while the proposed activity has some adverse effects (e.g., repeated vegetation/sediment removal within a wetland), it also provides a benefit to the aquatic resource by removing invasive species that, if not removed, would likely to further degrade adjacent and downstream native habitats. For unvegetated concrete-lined channels, while this land cover does meet the technical definition of a disturbed wetlands under the City's SDBG and may be regulated as jurisdictional waters, maintenance would not result in a loss of functions or a change in wetland area, therefore, although still significant, the impact would not require mitigation. This is because maintenance of drainage facilities is distinguished from other types of development where permanent wetland impacts consist of filling the wetland and replacing the open drainage conveyance with a piped conveyance system (USACE 2017). Whereas a typical development results in the permanent loss of the open drainage conveyance system and therefore a loss of some function (even if limited in the case of a disturbed wetland) and City wetland area, maintenance within unvegetated concrete-lined areas would not result in a loss of function or wetland area and does not require compensatory mitigation.

In addition to the thresholds described above, maintenance of storm water facilities are a particularly unique type of recurring impact where habitat conditions may change as a result of prior maintenance. While impacts from maintenance may be considered significant, if documentation of prior approvals can be provided and any compensatory mitigation required under those approvals has been implemented/purchased, no additional mitigation would be required (i.e., one-time mitigation for permanent impacts of maintenance). This is consistent with regulatory policy and permits issued for recurring maintenance. As stated in the current USACE Nationwide Permit 31 for maintenance of existing flood control facilities, "the district engineer will determine any required mitigation one-time only for impacts associated with maintenance work while the maintenance baseline is approved. Once the one-time mitigation described above has been completed, or a determination made that mitigation is not required, no further mitigation will be required for maintenance activities within the maintenance baseline" (USACE 2017).

Table 5.3-3 provides a summary of potential direct impacts to vegetation communities and jurisdictional resources and determinations of significance in accordance with the SDBG (City of San Diego 2018).

Table 5.3-3
Significance of Impacts to Vegetation Communities and Jurisdictional Resources

Resource Type	Impact Threshold[1]	Significance of Impact
Native Uplands (Tier I, II, IIIA, or IIIB)	Less than 0.10 acre	Not significant
	0.10 acre or greater	Significant, requires mitigation
Non-native Grassland (Tier IIIB)	Less than 1.0 acre in an urban setting	Not significant
	1.0 acre or greater in an urban setting	Significant, requires mitigation
Jurisdictional Waters	Less than 0.01 acre outside of the Coastal Overlay Zone	Not significant
	0.01 acre or greater outside of the Coastal Overlay Zone; or any impacts within the Coastal Overlay Zone	Significant, requires mitigation
	Concrete-lined facilities that do not support vegetation	Significant, does not require mitigation
	Earthen-bottom facilities that do not support vegetation (e.g., natural flood channel, open water)	Significant, requires mitigation (but maintenance area may be eligible for 1:1 enhancement credit)
	Non-native, invasive-species dominated communities	Not significant
Previously Permitted Maintenance Areas	See above	Impact thresholds above apply, but prior approvals/mitigation for previous impacts may be considered adequate such that no additional mitigation would be required.

[1] Thresholds are applied per facility group to determine significance of direct impact. Impacts that are not significant per facility group, may still be considered cumulatively significant.

Impacts to individual sensitive species, aside from impacts to sensitive habitat, may also be considered significant based on the rarity and extent of impacts. In general, conformance with the MSCP Subarea Plan, including provisions to provide habitat mitigation at required ratios, would reduce impacts to sensitive species to less than significant. The exception to this are impacts to Narrow Endemic Covered Species and non-Covered Species that are state-listed or federally listed and/or have a California Rare Plant Rank (CRPR) of 1B.1, 1B.2, 2B.1, or 2B.2. For impacts to Narrow

Endemic Covered Species or state-listed or federally listed species, species-specific mitigation is required on a case-by-case basis to reduce impacts to less than significant. As stated in the SDBG, "it is expected that the majority of CEQA sensitive species not covered by the MSCP will be adequately mitigated through the habitat based mitigation." Dudek evaluated sensitive species that, prior to completion of focused surveys, would have a moderate or high potential to occur within or adjacent to proposed maintenance impacts and determined, based on life history and distribution of each species, whether habitat-based mitigation would be adequate to reduce impacts to less than significant (see Tables 5.3-4a and 5.3-4b). In addition to determinations made in the SDBG for MSCP Covered Species, including Narrow Endemics, Dudek determined that non-Covered plant species with a CRPR of 1B.1 or 1B.2, or state- or federally listed would potentially require species-specific mitigation if impacts are unavoidable. Plants with a CRPR of 2B.1 or 2B.2 are defined as "fairly threatened in California, but more common elsewhere," and wildlife with CDFW Species of Special Concern and no other listing status are defined as "experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status OR having naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status." Dudek's review of these species confirmed that habitat mitigation measures (e.g., habitat restoration or land conservation) would reduce impacts to less than significant, because habitat-based mitigation is likely to support habitat for these species.

Impacts to plant species ranked CRPR 4 would not be considered significant since any populations identified on site would not represent a significant percentage of the population in terms of the ability for the species to persist (i.e., CRPR 4 species are not considered "rare" from a statewide perspective). Similarly, impacts to wildlife species that are only Watch List status per CDFW are not considered significant because any populations identified on site would not represent a significant percentage of the population in terms of the ability for the species to persist.

Table 5.3-4a
Sensitive Plant Species by Mitigation Type

Scientific Name	Common Name	Status (Federal/State/CRPR/ MSCP)[1]
Significant, Habitat-Based Mitigation		
Acmispon prostratus	Nuttall's acmispon	None/None/1B.1/Covered
Adolphia californica	California adolphia	None/None/2B.1/None
Ambrosia chenopodiifolia	San Diego bur-sage	None/None/2B.1/None
Ambrosia monogyra	singlewhorl burrobrush	None/None/2B.2/None

Table 5.3-4a
Sensitive Plant Species by Mitigation Type

Scientific Name	Common Name	Status (Federal/State/CRPR/ MSCP)[1]
Bergerocactus emoryi	golden-spined cereus	None/None/2B.2/None
Bloomeria clevelandii	San Diego goldenstar	None/None/1B.1/Covered
Brodiaea filifolia	thread-leaved brodiaea	FT/CE/1B.1/Covered
Brodiaea orcuttii	Orcutt's brodiaea	None/None/1B.1/Covered
Ceanothus verrucosus	wart-stemmed ceanothus	None/None/2B.2/Covered
Corethrogyne filaginifolia var. *linifolia*	Del Mar Mesa sand aster	None/None/1B.1/Covered
Dicranostegia orcuttiana	Orcutt's bird's-beak	None/None/2B.1/Covered
Dudleya attenuata ssp. *attenuata*	Orcutt's dudleya	None/None/2B.1/None
Dudleya viscida	sticky dudleya	None/None/1B.2/Covered
Ericameria palmeri var. *palmeri*	Palmer's goldenbush	None/None/1B.1/Covered
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/CE/1B.1/Covered
Euphorbia misera	cliff spurge	None/None/2B.2/None
Ferocactus viridescens	San Diego barrel cactus	None/None/2B.1/Covered
Iva hayesiana	San Diego marsh-elder	None/None/2B.2/None
Leptosyne maritima	sea dahlia	None/None/2B.2/None
Monardella viminea	willowy monardella	FE/CE/1B.1/Covered
Nama stenocarpa	mud nama	None/None/2B.2/None
Pinus torreyana ssp. *torreyana*	Torrey pine	None/None/1B.2/Covered
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/None/2B.2/None
Rosa minutifolia	small-leaved rose	None/CE/2B.1/Covered
Salvia munzii	Munz's sage	None/None/2B.2/None
Senecio aphanactis	chaparral ragwort	None/None/2B.2/None
Significant, Species-Specific Mitigation		
Acanthomintha ilicifolia	San Diego thorn-mint	FT/CE/1B.1/Narrow Endemic
Ambrosia pumila	San Diego ambrosia	FE/None/1B.1/Narrow Endemic
Aphanisma blitoides	aphanisma	None/None/1B.2/Narrow Endemic
Atriplex coulteri	Coulter's saltbush	None/None/1B.2/None
Atriplex pacifica	South Coast saltscale	None/None/1B.2/None
California macrophylla	round-leaved filaree	None/None/1B.2/None
Centromadia parryi ssp. *australis*	southern tarplant	None/None/1B.1/None
Centromadia pungens ssp. *laevis*	smooth tarplant	None/None/1B.1/None

Table 5.3-4a
Sensitive Plant Species by Mitigation Type

Scientific Name	Common Name	Status (Federal/State/CRPR/ MSCP)[1]
Chorizanthe orcuttiana	Orcutt's spineflower	FE/CE/1B.1/None
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	None/None/1B.2/None
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	None/None/1B.2/None
Corethrogyne filaginifolia var. *incana*	San Diego sand aster	None/None/1B.1/None
Cylindropuntia californica var. *californica*	snake cholla	None/None/1B.1/Narrow Endemic
Deinandra conjugens	Otay tarplant	FT/CE/1B.1/Narrow Endemic
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None/None/1B.1/None
Dudleya variegata	variegated dudleya	None/None/1B.2/Narrow Endemic
Geothallus tuberosus	Campbell's liverwort	None/None/1B.1/None
Hazardia orcuttii	Orcutt's hazardia	None/CT/1B.1/None
Heterotheca sessiliflora ssp. *sessiliflora*	beach goldenaster	None/None/1B.1/None
Isocoma menziesii var. *decumbens*	decumbent goldenbush	None/None/1B.2/None
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None/1B.1/None
Monardella stoneana	Jennifer's monardella	None/None/1B.2/None
Navarretia fossalis	spreading navarretia	FT/None/1B.1/Narrow Endemic
Navarretia prostrata	prostrate vernal pool navarretia	None/None/1B.1/None
Phacelia stellaris	Brand's star phacelia	None/None/1B.1/None
Quercus dumosa	Nuttall's scrub oak	None/None/1B.1/None
Sphaerocarpos drewei	bottle liverwort	None/None/1B.1/None
Triquetrella californica	coastal triquetrella	None/None/1B.2/None

[1] Status Legend:
FE: Federally listed as endangered
FT: Federally listed as threatened
CE: State listed as endangered
CT: State listed as threatened
CRPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

Table 5.3-4b
Sensitive Wildlife Species by Mitigation Type

Scientific Name	Common Name	Status (Federal/State/San Diego MSCP Subarea Plan)[1]
Significant, Species-Specific Mitigation		
Rallus obsoletus levipes	Ridgway's rail	FE/SE, FP/Covered
Sternula antillarum browni	California least tern	FE/SE, FP/Covered
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FT/SE/Covered
Vireo bellii pusillus (nesting)	least Bell's vireo	FT/SE/Covered
Polioptila californica californica	coastal California gnatcatcher	FT/SSC/Covered
Elanus leucurus (nesting)	white-tailed kite	None/FP/None
Passerculus sandwichensis beldingi	Belding's savannah sparrow	None/SE/Covered
Significant, Habitat-Based Mitigation		
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC/Covered
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC/None
Chaetodipus californicus femoralis	Dulzura pocket mouse	None/SSC/None
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None/SSC/None
Crotalus ruber	red diamond rattlesnake	None/SSC/None
Icteria virens (nesting)	yellow-breasted chat	None/SSC/None
Setophaga petechia (nesting)	yellow warbler	None/SSC/None
Spea hammondii	western spadefoot	None/SSC/None
Thamnophis hammondii	two-striped gartersnake	None/SSC/None
Accipiter cooperii (nesting)	Cooper's hawk	None/WL/Covered
Aspidoscelis hyperythra	orangethroat whiptail	None/WL/Covered
Odocoileus hemionus	mule deer	None/None/Covered
Puma concolor	cougar	None/None/Covered
Sialia mexicana	western bluebird	None/None/Covered

[1] Status Legend:
FE: Federally Endangered
FT: Federally Threatened
SSC: California Species of Special Concern
FP: California Fully Protected Species
WL: California Watch List Species
SE: State Endangered

Indirect Impacts

Indirect impacts are reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the direct maintenance area, such as downstream effects. Indirect impacts include short-term effects immediately related to maintenance activities and

long-term or chronic effects occurring after maintenance or as a result of repeated maintenance. Indirect impacts that would result in loss of area or function of wetlands, Tier I–III uplands, or sensitive species may be considered significant.

For typical development, the City applies a 100-foot-wide avoidance buffer surrounding wetland resources to ensure the value and function of the wetland is maintained (City of San Diego 2018). Maintenance activities proposed under the MWMP inherently occur within wetlands. Maintenance conducted outside of the wetland areas would not be effective in reducing flood risk or repairing infrastructure. To the extent feasible, FMPs are designed to minimize the extent of maintenance activities within and adjacent to wetlands, including the number of access routes, the size of staging areas, and area of maintenance. In addition, the frequency and duration of maintenance is minimized and maintenance is conducted based on a demonstrated effectiveness to reduce flood risk to life and property. These measures ensure that impacts to wetland buffers are minimized to the maximum extent practicable. Given these minimization measures and the impracticality of avoidance, impacts to wetland buffers from proposed MWMP activities are therefore considered less than significant.

Significant indirect impacts to breeding birds may occur if maintenance produces noise or other types of disturbance in proximity to active nests, potentially resulting in abandonment of nests or other breeding failure. The SDBG (2018) provide required active nest buffers and breeding season dates for Covered Species, including raptors.

For facilities that are located adjacent to the City's MHPA, indirect impacts could occur from maintenance. Section 4.13 and Table 4-82a of the BTR (Appendix D of this EIR) gives additional detail on the MWMP's consistency with the City's MSCP and the MSCP Land Use Adjacency Guidelines that make it a compatible use within and adjacent to the MHPA. Compatibility with the Land Use Adjacency Guidelines would reduce indirect impacts to the MHPA from maintenance activities through implementation of conditions related to drainage, noise, toxic material, and others.

Environmental Protocols

The activities proposed in the MWMP were developed with the goal of avoiding and minimizing potential impacts to biological resources. As such, the following Environmental Protocols (EPs) are identified as part of the proposed MWMP Appendix C because these specific proposed activities serve to reduce impacts to biological resources.

The first two biological-resource-related EPs are not associated with a potentially significant impact, but provide additional assurances that adverse biological impacts would be avoided and minimized to the maximum extent practicable.

EP-BIO-1 **FMP Preparation/Verification.** An The Transportation & Storm Water Department (TSW) shall prepare a FMP Facility Maintenance Plan (FMP)will be prepared for new facilities or verified verify consistency of the for FMPs included in the approved *Municipal Waterways Maintenance Plan* (MWMP) Appendix A, and which shall include written and graphic depiction of the facility-specific biological resources/impacts and avoidance areas, access/staging/loading routes, the equipment that will be used to complete the maintenance, and applicable mitigation measures. FMPs are designed to avoid and minimize impacts to biological resources to the maximum extent practicable while providing flood risk reductions and ensuring the ongoing functionality of existing infrastructure. If compensatory mitigation has been provided for previously permitted maintenance areas, proof of mitigation implementation/credit will be provided as part of the FMP.

EP-BIO-2 **Lighting Restrictions.** TSW shall ensure nighttime lighting is required for emergency nighttime maintenance, any nighttime lighting during emergency maintenance complies with the will be subject to City of San Diego (City) Outdoor Lighting Regulations per pursuant to Land Development Code (LDC) Section 142.0740 to the maximum extent practicable, and shall be low-pressure sodium illumination (or similar) and directed away from the Multiple Species Conservation Program preserve when the work site is adjacent to the Multi-Habitat Planning Area (MHPA) using appropriate placement and shielding.

Potentially significant indirect impacts include potential for loss of habitat, inadvertent adverse impacts to sensitive plant species, reduction of wildlife use during maintenance, spread of invasive species, and discharge of pollutants during maintenance. These indirect impacts would be reduced to less than significant through implementation of **EP-BIO-3a, EP-BIO-3b, EP-BIO-3c, EP-BIO-4, EP-BIO-5, EP-BIO-6, EP-LU-1**, **EP-LU-2,** and **EP-WQ-1** (note, **EP-LU-1**, **EP-LU-2**, and **EP-WQ-1** are listed in EIR Section 5.8, Land Use, and Section 5.12, Water Quality, respectively).

EP-BIO-3a **Qualified Biological Monitor.** TSW shall ensure the following protocols are included in the FMP for each project within or adjacent to sensitive biological resources:

1. **Qualified Biologist.** At least 3 days prior to the start of maintenance activities, the Project Biologist shall submit a letter to Mitigation Monitoring Coordination (MMC) that confirms a qualified monitoring biologist (QMB), as defined in the City of San Diego Biology Guidelines (SDBG), has been retained to implement required monitoring. This letter shall also include the names and resumes of all persons involved in the biological monitoring of the project, a schedule for the proposed work, and the facility's pre-approved FMP.

2. **Documentation.** Prior to the commencing maintenance on any storm water facility within, or immediately adjacent to, an MHPA, the Environmental Designee (ED) shall verify that all MHPA boundaries and limits of work have been delineated on all maintenance documents.

3. **Biological Construction Mitigation/Monitoring Exhibit.** The Qualified Biologist shall present a Biological Construction Mitigation/Monitoring Exhibit (BCME), which includes limits of work, proposed monitoring schedule, avian or other wildlife surveys/survey schedules (including general avian nesting and U.S. Fish and Wildlife Service [USFWS] protocol), timing of surveys, avian construction avoidance areas/noise buffers/barriers, other impact avoidance areas, and any subsequent requirements determined by the Qualified Biologist and the City ED/MMC. The BCME shall include the FMP site plan, written and graphic depiction of the project's biological mitigation/ monitoring program, and a schedule. Where the potential for impacts to biological resources is limited (e.g., removal of sediment or debris from an unvegetated concrete structure that flows into a closed storm drain system during the non-breeding season), the monitoring program may be limited to a pre- and post-maintenance verification inspections. For highly sensitive resource areas, full-time biological monitors may be required. The BCME shall be approved by the MMC prior to the start of maintenance.

4. **Resource Marking/Protection.** Prior to maintenance activities, the Qualified Biologist shall supervise the placement of orange construction fencing or visible marker, staking, or flagging along the limits of the facility maintenance area adjacent to sensitive biological habitats, as shown on the BCME, to ensure crews remain in the approved maintenance areas. These demarcations will not be required for facilities with existing structures, such as chain-link fencing, along the limits or facilities that are adjacent to urban and non-sensitive habitat areas.

   This phase shall include flagging plant specimens and delineating buffers to protect sensitive biological resources (e.g., habitats, sensitive flora and fauna species, including nesting birds) during construction. Appropriate steps/care shall be taken to minimize attraction of nest predators to the site.

EP-BIO-3b **Pre-Construction Meeting/Education.** Prior to the start of any activity where the FMP for the proposed maintenance area indicates that significant impacts to biological resources may occur, TSW shall arrange an on-site pre-maintenance meeting with the following in attendance: MMC representative, Project Consultant(s) (e.g., QMB), TSW, Construction Manager (CM) (if applicable), Resident Engineer (RE) (if applicable), and other parties of interest. At this meeting, the QMB shall identify and

discuss the maintenance protocols that apply to the maintenance activities and the sensitive nature of the adjacent habitat with the crew and subcontractor.

At the pre-maintenance meeting, the QMB shall submit to the MMC and CM a copy of the FMP and BCME that identifies areas to be protected, fenced, and monitored. This data shall include all planned locations and design of noise attenuation walls or other devices, if applicable.

Prior to commencement of maintenance activities, the Qualified Biologist shall meet with the crew supervisor and the maintenance crew and conduct an on-site educational session regarding the need to avoid impacts outside of the approved maintenance area and to protect sensitive flora and fauna that may occur at the specific facility (e.g., explain the avian and wetland buffers, flag system for removal of invasive species or retention of sensitive plants, and clarify acceptable access routes/methods and staging areas).

EP-BIO-3c **Biological Monitoring and Reporting.** The designated QMB shall inspect/monitor the project area in accordance with the approved BCME. This may be limited to pre- and post-maintenance inspections, weekly visits, or full-time monitoring, as determined by the Qualified Biologist and MMC.

The QMB shall document monitoring events via a Consultant Site Visit Record. This record shall be sent to the TSW each month and the TSW shall forward copies to MMC. However, if weekly reports are submitted as part of a separate agency permit requirement, these reports may be forwarded to MMC in place of Consultant Site Visit Record submittals.

If no deviations from the FMP occur during maintenance, no additional documentation is required. If deviations from the FMP occur, such as unanticipated impacts to sensitive vegetation communities or unanticipated discharge of pollutants, a Final Monitoring Report shall be prepared within 3 months following the completion of mitigation monitoring detailing maintenance and monitoring that occurred and any remedial or compensatory measures taken.

Potentially significant indirect impacts could occur from the degradation of sensitive vegetation communities and habitat for sensitive plant and wildlife species due maintenance activities potentially increasing the spread of invasive plant species. These indirect impacts would be reduced to a level less than significant through implementation of EP-BIO-4 and EP-LU-1 (note, EP-LU-1 is listed in EIR Section 5.8, Land Use).

EP-BIO-4 **Handling of Non-Native Invasive Plant Species.** Where an FMP involves potential disturbance of non-native invasive plant species (as identified by the California Invasive Plant Council), TSW shall implement standard environmental hygiene practices and the following maintenance procedures, or current best practices, to ensure that dispersal of propagules (e.g., seeds, stems) are avoided or minimized:

- When non-native invasive plants can be removed entirely (e.g., root and above-ground plant material), the removal shall be monitored by the QMB.
- When removing the roots of non-native invasive plants is not feasible (e.g., when erosive flows are predicted), TSW shall determine if any above-ground plant material can be removed (e.g., cut/trimmed). The removal of any above-ground plant material shall be monitored by the QMB. If herbicides are used to treat roots or cut/trimmed plants, it shall be applied by a Licensed Pest Control Advisor using chemicals permitted as safe within aquatic environments.
- When removing the roots and above-ground non-native invasive plants is not feasible (e.g., due to limited access), TSW shall coordinate with the QMB to determine if herbicides or other methods to treat plant material could be implemented. If herbicides are used to treat roots or cut/trimmed plants, it shall be applied by a Licensed Pest Control Advisor using chemicals permitted as safe within aquatic environments.
- TSW shall inspect and clean in place any equipment and tools used to handle, remove, and/or treat non-native invasive plants on a daily basis during active maintenance to limit the transfer of invasive rhizomes, seeds, and infectious agents to new off-site work areas.

Potentially significant indirect impacts from the loss of sensitive plant species adjacent to maintenance activity areas could occur. These indirect impacts would be reduced to a level less than significant through implementation of **EP-BIO-5**.

EP-BIO-5 **Sensitive Plant Species Protection.** If maintenance activities will occur adjacent to areas suitable for listed and/or narrow endemic plants, and no direct impacts are proposed to occur, TSW shall ensure the boundaries of the plant populations designated sensitive by the resource agencies are clearly delineated with flagging or temporary fencing that must remain in place for the duration of the activity.

Potentially significant indirect impacts could occur from degradation of sensitive vegetation communities and habitat for sensitive plant and wildlife species due maintenance activities

potentially increasing the spread of shot hole borer. These indirect impacts would be reduced to a level less than significant through implementation of **EP-BIO-6**.

EP-BIO-6 **Handling of Potential Shot Hole Borer Infestation.** If maintenance within a particular facility will impact woody riparian vegetation within a watershed where shot-hole borer is known to occur, TSW shall ensure a biologist knowledgeable of shot-hole borer life history and behavior conducts an initial pre-maintenance survey of the facility segments to determine if indicators of shot-hole borer infestation are present within the maintenance area.

If no indicators of shot-hole borer are observed, removal and disposal of the vegetative material shall proceed as planned.

If signs of shot-hole borer are observed, the following procedures, or current best practices, shall be implemented to manage the infestation and prevent further spread of the pest:

- Disinfect all tools that come into contact with infected woody material using a 5% bleach solution, Lysol spray, 70% ethanol (or isopropyl).
- Either chip or incinerate all woody vegetative material removed as part of maintenance.
    - If chipping method is used, all woody vegetative material removed as part of maintenance shall be chipped to less than 1 inch to dry the in-wood climate out and make it unsuitable for beetles or fungus.

Following chipping, material shall be solarized in the facility staging or stockpile area on site using a clear plastic or visqueen covering. The solarizing period shall be a minimum of 2 weeks during summer months and 2 months (or longer depending on weather) during winter months. The goal is to maintain temperatures under the cover between 95°F and 105°F.

EP-LU-1 **MSCP/MHPA - Land Use Adjacency Guidelines.** See EIR Section 5.8, Land Use.

EP-LU-2 **MSCP/MHPA – Boundary Line Adjustment.** See EIR Section 5.8, Land Use.

EP-WQ-1 **Water Pollution Control Plan.** See EIR Section 5.12, Water Quality.

5.3.6 IMPACTS

As described in Chapter 4, Project Description, the MWMP includes a description of maintenance and repair activities and supporting implementation methods. The majority of these activities are routine and anticipated to occur in conformance with specific FMPs included in the MWMP (Appendix A). Routine refers to typical activities that occur on a regular, ongoing basis and are associated with maintaining storm water infrastructure. However, additional activities not identified in an FMP may be required and may occur anywhere within the City's storm water conveyance system.

Potential site-specific impacts associated with implementation of MWMP activities and methods as identified in the FMPs are described below under the "Project-Level Analysis (FMPs)" heading for each of the issues identified. All proposed FMPs have been evaluated for potential biological resource impacts in the BTR (Appendix D).

As further detailed in Chapter 4, Project Description, MWMP activities consist of maintenance and repair activities. Maintenance activities include vegetation and invasive plant species management, sediment/debris removal, structural/debris/trash-fence clearing, and culvert clearing. Repair activities include concrete (minor and major) and bank repair, and structural/debris/trash-fence repair.

Potential impacts associated with implementation of additional MWMP activities and methods (i.e., minor maintenance, changed conditions/new or substantially amendment FMPs, compensatory mitigation sites, and emergency maintenance) are identified in Section 5.3.7, Program-Level Analysis (Other MWMP Activities). These impacts are analyzed to the extent feasible at this time; however, additional project-level CEQA analysis and/or new or amended permits may be required prior to implementation.

Issue 1: Would the proposal have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in the MSCP or other local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?

Project-Level Analysis (FMPs)

The BTR (Appendix D to this EIR) includes project-specific impact descriptions and acreages for each facility segment/structure, organized by watershed and facility group. Please refer to the BTR for project-specific impact information, including impact acreages that are not considered significant (e.g., Tier IV land covers, artificial wetlands). Included in this section is a summary of significant direct impacts within each watershed.

MWMP project facilities are classified as either previously permitted or newly proposed (or in some cases, a combination of the two where only a portion of the facility was included in previously issued permits).

Direct Impacts within Previously Permitted Project Areas

Mitigation ratios for previously permitted facilities have been established by previous approvals that generally conform with or exceed the SDBG Table 2A and 3 ratios. In most cases, mitigation has been provided at a mitigation site developed and maintained by the City for wetlands and payment to the City's Habitat Acquisition Fund or Cornerstone Lands for uplands. In some cases, compensatory wetlands mitigation credits have been purchased from third-party mitigation banks. The BTR (Appendix D) includes an Appendix F that provides details regarding how impacts to sensitive vegetation communities and jurisdictional aquatic resources within previously permitted maintenance have been adequately mitigated. In all cases, the adequacy of one-time mitigation for the permanent loss associated with routine, ongoing maintenance has been previously established according to City, state, and federal regulations and long-term protection measures at each of those mitigation sites to ensure that biological resources restored and protected at those sites remain functional and sustainable. **EP-BIO-1** requires proof of mitigation for previously maintained facilities prior to repeat maintenance.

Direct Impacts within Newly Proposed Project Areas

Direct impacts to sensitive vegetation communities (i.e., Tier I–III and Wetlands) and jurisdictional aquatic resources, including resources that may support sensitive species, would be **potentially significant**, absent mitigation (**BIO-1a** and **BIO-1b).** Potentially significant impacts to sensitive vegetation communities are summarized by watershed below (**Table 5.3-5**).

Table 5.3-5
Potentially Significant Impacts to Vegetation Communities[1]

SDBG Vegetation Community	Watershed								Total Acres
	San Dieguito River	*Los Peñasquitos*	*Mission Bay*	*San Diego River*	*Pueblo San Diego*	*Sweetwater*	*Otay*	*Tijuana River*	
Wetlands (acres)									
Disturbed Wetland	0.15	0.08	0.57	1.33	0.41	–	0.84	0.72	*4.10*
Disturbed Wetland (Unvegetated Concrete-lined)	3.34	5.73	3.64	7.49	14.01	0.99	1.35	3.3	*39.85*
Coastal Salt Marsh	–	0.92	–	–	–	–	–	–	
Freshwater Marsh	0.06	0.66	0.56	0.03	–	–	0.51	0.18	*2*
Natural Flood Channel	–	0.37	0.31	0.87	2.72	–	0.03	4.62	*8.92*
Oak Riparian Forest	–	–	0.29	–	–	–			*0.29*
Riparian Forest or Woodland	0.22	1.1	0.07	0.7	0.3	–	1.29	0.93	*4.61*
Riparian Scrub	–	0.15	0.38	0.47	0.15	–		0.7	*1.85*
Newly Proposed Wetland Subtotal	*3.77*	*1.99*	*4.32*	*7.42*	*9.93*	–	*3.74*	*3.66*	*34.83*
Previously Permitted Wetland Subtotal	–	*7.03*	*1.51*	*3.46*	*7.66*	*0.99*	*0.38*	*6.79*	*27.82*
Sensitive Uplands (acres)									
Chamise Chaparral (Tier IIIA)	–	–	–	<0.01	–	–	–	–	*<0.01*

Table 5.3-5
Potentially Significant Impacts to Vegetation Communities[1]

SDBG Vegetation Community	Watershed								Total Acres
	San Dieguito River	*Los Peñasquitos*	*Mission Bay*	*San Diego River*	*Pueblo San Diego*	*Sweetwater*	*Otay*	*Tijuana River*	
Coastal Sage Scrub (Tier II)	–	0.14	0.34	0.03	0.17	–	–	–	*0.68*
CSS/Chaparral (Tier II)	–	–	–	0.04	–	–	–	–	*0.04*
Non-Native Grassland (Tier IIIB)	–	0.01	–	–	0.27	–	–	–	*0.28*
Oak Woodlands (Tier I)	–	–	–	<0.01		–	–	–	*<0.01*
Newly Proposed Sensitive Upland Subtotal	–	*0.08*	–	*0.07*	*0.13*	–	–	–	*0.28*
Previously Permitted Upland Subtotal	–	*0.06*	*0.34*	–	*0.31*	–	–	–	*0.71*

[1] Acreages include impacts that may fall under significance thresholds presented in Table 5.3-3. New compensatory mitigation is required for newly proposed impacts above the significance thresholds.

Direct Impacts in the San Dieguito Watershed

Direct impacts from proposed maintenance within the San Dieguito watershed would occur at two facility groups within three individual facility segments. There would be no impacts to the MHPA or COZ within this watershed as part of maintenance activities.

Vegetation Communities

All facilities in the San Dieguito watershed are newly proposed; therefore, all impacts to sensitive vegetation and/or resources within this watershed would be considered significant.

Proposed maintenance would result in a total of 0.28 acres of newly proposed significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, CCC, and/or the City. No significant direct impacts to sensitive upland vegetation communities is anticipated as a result of maintenance at these two facility groups. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant,** absent mitigation (**BIO-1a** and **BIO-2**). Additional proposed maintenance within disturbed wetland (unvegetated concrete-lined channel) would also be potentially significant, but would not require compensatory mitigation.

Sensitive Plant Species

In the San Dieguito watershed, no sensitive plant species were observed during the 2019 focused surveys (or during previous biological surveys), or have moderate or high potential to occur within suitable habitat. Therefore, potential impacts to sensitive plant species would be **less than significant**.

Sensitive Wildlife Species

In the San Dieguito watershed, there were no sensitive wildlife species observed during focused surveys or that had a high potential to occur in suitable habitat within the limits of facility maintenance areas. Six sensitive wildlife species have moderate potential to occur within the San Dieguito watershed study area. Impacts to these species would be **potentially significant,** absent mitigation (**BIO-1a**, **BIO-4**, and **BIO-6**).

Direct Impacts in the Los Peñasquitos Watershed

Direct impacts from proposed maintenance within the Los Peñasquitos watershed would occur at 10 facility groups and within 12 individual facility segments/structures, including 1 structure and 1 basin. A portion of these maintenance impacts would occur within the MHPA at three facility groups in five facility segments and within the COZ at six facility groups in seven facility segments.

Vegetation Communities

Proposed maintenance would result in a total of 1.76 acres of newly proposed and 1.64 acres of previously permitted significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City. Proposed maintenance would also result in a total of 0.08 acres of newly proposed and 0.06 acre of previously permitted direct impacts to sensitive upland vegetation communities at one facility group and one structure within the Los Peñasquitos watershed. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant,** absent mitigation (**BIO-1a**, **BIO-1b**, and **BIO-2**). Additional proposed maintenance within disturbed wetland (unvegetated concrete-lined channel) would also be potentially significant, but would not require compensatory mitigation.

Sensitive Plant Species

Six sensitive plant species were observed during the focused plant surveys in 2019 in the Peñasquitos watershed: San Diego sagewort (*Artemisia palmeri;* CRPR 4.2), San Diego County viguiera (*Bahiopsis laciniata;* CRPR 4.2), San Diego marsh-elder (*Iva hayesiana;* CRPR 2B.2), southwestern spiny rush (*Juncus acutus* ssp*. leopoldii;* CRPR 4.2), Torrey pine (*Pinus torreyana* ssp. *torreyana;* CRPR 1B.2), and Nuttall's scrub oak (*Quercus dumosa;* CRPR 1B.1). There are no other sensitive plant species that have moderate or high potential to occur within suitable habitat in the Peñasquitos watershed.

One sensitive plant species, southwestern spiny rush, would be directly impacted by maintenance activities within the 5-805 (Segment 1) facility basin. However, potential impacts to this CRPR 4 would be **less than significant**. No other sensitive plant species would be permanently impacted as a result of the proposed maintenance within the facility segments.

Sensitive Wildlife Species

In the Los Peñasquitos watershed, there are six sensitive wildlife species that were either observed during the 2017 focused surveys or during previous biological surveys or that have a high potential to occur in suitable habitat within the limits of MWMP facility segment maintenance areas and, therefore, would be directly impacted by maintenance activities or by removal of this habitat. These species include least Bell's vireo (*Vireo bellii pusillus)*, southwestern willow flycatcher (*Empidonax traillii extimus)*, yellow-breasted chat (*Icteria virens)*, Ridgway's rail (*Rallus obsoletus levipes)*, yellow warbler (*Setophaga petechia)*, and coastal California gnatcatcher. Additionally, raptor species, which include MSCP Covered Species Cooper's hawk (*Accipiter cooperii)*, have a high potential to occur or were observed within or adjacent to MWMP facility segments in the Los Peñasquitos watershed. There are 10 sensitive wildlife species that have moderate potential to occur within the Los Peñasquitos watershed study area. Impacts to these species would be **potentially significant,** absent mitigation (**BIO-1a, BIO-1b, BIO-2, BIO-4**, **BIO-5**, and **BIO-6**).

Direct Impacts in the Mission Bay Watershed

Direct impacts from proposed maintenance within the Mission Bay watershed would occur at seven facility groups within nine individual facility segments. A portion of these maintenance impacts would occur within the MHPA at one facility group in one facility segment and within the COZ at two facility groups in three facility segments.

Vegetation Communities

Proposed maintenance would result in a total of 1.19 acres of newly proposed and 0.57 acres of previously permitted significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City. Previously permitted maintenance would also result in a total of 0.34 acres of direct impacts to sensitive upland vegetation communities at one facility group and one facility within the Mission Bay watershed. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant,** absent mitigation (**BIO-1a**, **BIO-1b**, and **BIO-2**). Additional proposed maintenance within disturbed wetland (unvegetated concrete-lined channel) would also be potentially significant, but would not require compensatory mitigation.

Sensitive Plant Species

Six sensitive plant species were observed during the focused plant surveys in 2019 in the Mission Bay watershed: San Diego sagewort (CRPR 4.2), San Diego County viguiera (CRPR 4.2), San Diego marsh-elder (CRPR 2B.2), southwestern spiny rush (CRPR 4.2), Torrey pine (CRPR 1B.2), and Nuttall's scrub oak (CRPR 1B.1). There are no other sensitive plant species with moderate or high potential to occur in suitable habitat in the Mission Bay watershed.

Only San Diego County viguiera has the potential to be directly impacted by maintenance activities within the Vickie (Segment 1) facility. However, this facility was previously permitted, and impacts to this CRPR 4 species would be **less than significant.** None of the other observed sensitive plant species would be impacted as a result of the proposed maintenance within the facility segments.

Sensitive Wildlife Species

In the Mission Bay watershed, there are two sensitive wildlife species that were either observed during focused surveys or have a high potential to occur in suitable habitat within the limits of MWMP facility segment maintenance areas and, therefore, would be directly impacted by maintenance activities or by removal of this habitat. These species are the Ridgway's rail and MSCP Covered Species western bluebird (*Sialia mexicana*). Additionally, raptor species, which include MSCP Covered Species Cooper's hawk, have a high potential to occur or were observed within or adjacent

to MWMP facility segments in the Mission Bay watershed. Five sensitive wildlife species have moderate potential to occur within the Mission Bay watershed study area (see Appendix D). Further details regarding direct impacts to sensitive wildlife species within each of the facility segments in this watershed are provided in Appendix D. Impacts to these species would be **potentially significant,** absent mitigation (**BIO-1a, BIO-1b, BIO-2, BIO-4**, **BIO-5**, and **BIO-6**).

Direct Impacts in the San Diego River Watershed

Direct impacts from proposed maintenance within the San Diego River watershed would occur at eight facility groups and within 23 individual facility segments, and six structures. A portion of these impacts would occur within the MHPA as part of the proposed maintenance activities within three facility groups and seven facility segments and within the COZ at one facility group in one facility segment.

Vegetation Communities

Proposed maintenance would result in a total of 0.99 acres of newly proposed and 1.93 acres of previously permitted significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City. Newly proposed maintenance would also result in a total of 0.07 acres of direct impacts to sensitive upland vegetation communities at three facility groups and two structures within the San Diego River watershed. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant,** absent mitigation (**BIO-1a**, **BIO-1b**, and **BIO-2**). Additional proposed maintenance within disturbed wetland (unvegetated concrete-lined channel) would also be potentially significant, but would not require compensatory mitigation.

Sensitive Plant Species

In the San Diego River watershed, nine sensitive plant species were observed during focused plant surveys in 2019: California adolphia (*Adolphia californica;* CRPR 2B.1), singlewhorl burrobrush (*Ambrosia monogyra;* CRPR 2B.2), San Diego sagewort (CRPR 4.2), San Diego County viguiera (CRPR 4.2), San Diego sand aster (*Corethrogyne filaginifolia* var. *incana;* CRPR 1B.1), San Diego marsh-elder (CRPR 2B.2), southwestern spiny rush (CRPR 4.2), Torrey pine (CRPR 1B.2), and Nuttall's scrub oak (CRPR 1B.1).

Five sensitive plant species would be directly impacted by maintenance activities:

- singlewhorl burrobrush (CRPR 2B.2) within Mission Gorge (Segment 1), Murphy Canyon (Segment 1), and Baja (Segment 1) facilities;
- southwestern spiny rush (CRPR 4.2) within Murphy Canyon (Segment 1) facility;
- San Diego sagewort (CRPR 4.2) within Baja (Segment 1) facility;

- San Diego County viguiera (CRPR 4.2) within Baja (Segment 1) facility; and
- Nuttall's scrub oak (CRPR 1B.1) within Fairmount (Segment 1) and Fairmount (Segment 3) facilities.

Impacts to CRPR 4 species would be **less than significant**. Impacts to singlewhorl burrobrush would also be **potentially significant**, absent habitat-based mitigation if unavoidable (**BIO-1a** and **BIO-1b**). Impacts to Nuttall's scrub oak would be **potentially significant**, absent species-specific mitigation, if unavoidable (**BIO-3**).

There are no other sensitive plant species that have high or moderate potential to occur within suitable habitat in facilities in the San Diego River watershed.

Sensitive Wildlife Species

In the San Diego River watershed, there are seven sensitive wildlife species that were either observed during focused surveys or have a high potential to occur in suitable habitat within the limits of MWMP facility segment maintenance areas and, therefore, would be directly impacted by maintenance activities or by removal of this habitat. These species include coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, California least tern (*Sternula antillarum browni)*, yellow-breasted chat, Ridgway's rail, and yellow warbler. Additionally, raptor species, which include MSCP Covered Species Cooper's hawk, and California gull (*Larus californicus*) have a high potential to occur or were observed within or adjacent to MWMP facility segments in the San Diego River watershed. Six sensitive wildlife species have moderate potential to occur within the San Diego River watershed study area (see Appendix E of Appendix D). Further details regarding direct impacts to sensitive wildlife species within each of the facility segments in this watershed are provided in Appendix D. Impacts to these species would be **potentially significant**, absent mitigation (**BIO-1a, BIO-1b, BIO-2, BIO-4, BIO-5,** and **BIO-6**).

Direct Impacts in the Pueblo San Diego Watershed

Direct impacts from proposed maintenance within the Pueblo San Diego watershed would occur at 21 facility groups and within 35 individual facility segments and three structures. A portion of these impacts would occur within the MHPA as part of the proposed maintenance activities within two facility groups and three facility segments. There would be no impacts within the COZ as a result of maintenance activities in this watershed.

Vegetation Communities

Proposed maintenance would result in a total of 2.14 acres of newly proposed and 1.58 acres of previously permitted significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City. Newly proposed

maintenance would also result in a total of 0.13 acres of direct impacts to sensitive upland vegetation communities and 0.31 acres of previously permitted significant direct impacts to sensitive upland vegetation communities at seven facility groups and eight facilities within the Pueblo San Diego watershed. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant,** absent mitigation (**BIO-1a**, **BIO-1b**, and **BIO-2**). Additional proposed maintenance within disturbed wetland (unvegetated concrete-lined channel) would also be potentially significant, but would not require compensatory mitigation.

Sensitive Plant Species

Eight sensitive plant species were observed during the focused plant surveys in 2019 in the Pueblo San Diego watershed: singlewhorl burrobrush (CRPR 2B.2), San Diego sagewort (CRPR 4.2), San Diego County viguiera (CRPR 4.2), San Diego marsh-elder (CRPR 2B.2), southwestern spiny rush (CRPR 4.2), Torrey pine (CRPR 1B.2), Nuttall's scrub oak (CRPR 1B.1), and ashy spike-moss (CRPR 4.1). There are no other sensitive plant species that have a high or moderate potential to occur in suitable habitat in the Pueblo San Diego watershed.

Four sensitive plant species would be directly impacted by maintenance activities:

- singlewhorl burrobrush (CRPR 2B.2) within Home (Segment 2), Alpha (Segment 1), and Ocean View (Segment 1) facilities;
- southwestern spiny rush (CRPR 4.2) within Federal (Segment 2) facility;
- San Diego marsh-elder (CRPR 2B.2) within Alpha (Segment 1) facility; and
- San Diego County viguiera (CRPR 4.2) within Ocean View (Segment 1) facility.

Impacts to the CRPR 4 species would be **less than significant**. Impacts to singlewhorl burrobrush and San Diego marsh-elder would be **potentially significant**, absent habitat-based mitigation measures (**BIO-1a** and **BIO-1b**), if unavoidable.

Sensitive Wildlife Species

In the Pueblo San Diego watershed, there are six sensitive wildlife species that were either observed during focused surveys or have a high potential to occur in suitable habitat within the limits of MWMP facility segment maintenance areas, and, therefore, would be directly impacted by maintenance activities or by removal of this habitat. These species include coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, Ridgway's rail, and yellow warbler. Additionally, raptor species, which include MSCP Covered Species Cooper's hawk, have a high potential to occur or were observed within or adjacent to MWMP facility segments in the Pueblo San Diego watershed (Appendix E of Appendix D). Two sensitive wildlife species have moderate potential to occur within the

Pueblo San Diego watershed study area (see Appendix E of Appendix D). Further details regarding direct impacts to sensitive wildlife species within each of the facility segments in this watershed are provided in Appendix D. Impacts to these species would be **potentially significant**, absent mitigation **(BIO-1a, BIO-1b, BIO-2, BIO-4, BIO-5,** and **BIO-6).**

Direct Impacts in the Sweetwater Watershed

Direct impacts from proposed maintenance within the Sweetwater watershed would occur at one facility group within a single facility segment. There would be no impacts to the MHPA within this watershed as part of maintenance activities. There would be no impacts within the COZ as a result of maintenance activities in this watershed.

Vegetation Communities

The is only one facility in the Sweetwater watershed that has been previously permitted and would not result in significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City or significant direct impacts to sensitive upland vegetation. Therefore, maintenance would result in a **less-than-significant** loss of vegetation at this facility. Proposed maintenance within disturbed wetland (unvegetated concrete-lined channel) is would be potentially significant, but would not require compensatory mitigation.

Sensitive Plant Species

In the Sweetwater watershed, there were no sensitive plant species observed during focused plant surveys in 2019 (or during previous biological surveys) or that have a high or moderate potential to occur in suitable habitat. Therefore, potential impacts to sensitive plant species would be **less than significant**.

Sensitive Wildlife Species

In the Sweetwater watershed there were no sensitive wildlife species observed during focused surveys or that had a high potential to occur in suitable habitat within the limits of MWMP facility segment maintenance areas. Four sensitive wildlife species have moderate potential to occur within the Sweetwater watershed study area (see Appendix E of Appendix D). Therefore, direct impacts to nesting birds and raptors, which were not observed but have potential to occur in suitable habitat within and adjacent to the facility segment maintenance areas, would be **potentially significant**, absent mitigation (**BIO-4** and **BIO-6)**.

Direct Impacts in the Otay Watershed

Direct impacts from proposed maintenance within the Otay watershed would occur at two facility groups within eight individual facility segments. There would be no direct impacts to the MHPA as part of the proposed maintenance activities. One facility group, including two facility segments, occurs within the COZ would be impacted by maintenance activities.

Vegetation Communities

Proposed maintenance would result in 2.55 acres of newly proposed and 0.06 acres of previously permitted significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City. No significant direct impacts to sensitive upland vegetation communities is anticipated as result of maintenance in this watershed. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant**, absent mitigation (**BIO-1a** and **BIO-2**). Additional proposed maintenance within disturbed wetland (unvegetated concrete-lined channel) would also be potentially significant, but would not require compensatory mitigation.

Sensitive Plant Species

In the Otay watershed, there were no sensitive plant species observed during focused plant surveys in 2019 (or during previous biological surveys), or that have a high or moderate potential to occur in suitable habitat. Therefore, potential impacts would be **less than significant**.

Sensitive Wildlife Species

In the Otay watershed there are five sensitive wildlife species that were either observed during focused surveys or have a high potential to occur in suitable habitat within the limits of MWMP facility segment maintenance areas and, therefore, would be directly impacted by maintenance activities or by removal of this habitat. These species include least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, Ridgway's rail, and yellow warbler. Additionally, raptor species that include federally protected white-tailed kite (*Elanus leucurus),* MSCP Covered Species northern harrier (*Circus hudsonius),* and Cooper's hawk, and California gull have a high potential to occur or were observed within or adjacent to MWMP facility segments in the Otay watershed. One sensitive wildlife species has moderate potential to occur within the Otay watershed study area (Appendix D). Impacts would be potentially significant, absent mitigation (**BIO-1a, BIO-1b, BIO-2, BIO-4, BIO-5,** and **BIO-6**).

Direct Impacts in the Tijuana River Watershed

Direct impacts from proposed maintenance within the Tijuana River watershed would occur at 6 facility groups within 11 individual facility segments. A portion of these impacts would occur within the MHPA as part of the proposed maintenance activities within one facility group and two facility segments. Two facility groups and three facility segments occurring within the COZ would be impacted by maintenance activities.

Vegetation Communities

Proposed maintenance would result in a total of 0.68 acres of newly proposed and 6.42 acres of previously permitted significant direct impacts to jurisdictional aquatic resources, including wetland vegetation, under the jurisdiction of USACE, RWQCB, CDFW, and/or the City. No significant direct impacts to sensitive upland vegetation communities is anticipated as result of maintenance in this watershed. Direct impacts to sensitive vegetation communities, which may provide habitat for sensitive species, would be **potentially significant,** absent mitigation (**BIO-1a** and **BIO-2**). Additional proposed maintenance within disturbed wetland (unvegetated concrete-lined channel) would also be potentially significant, but would not require compensatory mitigation.

Sensitive Plant Species

Five sensitive plant species were observed during focused plant surveys in 2019 in the Tijuana River watershed: singlewhorl burrobrush (CRPR 2B.2), San Diego County viguiera (CRPR 4.2), seaside cistanthe (*Cistanthe maritima;* CRPR 4.2), cliff spurge (*Euphorbia misera;* CRPR 2B.2), and San Diego marsh-elder (CRPR 2B.2).

One sensitive plant species, singlewhorl burrobrush, would be directly impacted by maintenance activities within Smuggler's Gulch (Segment 1) facility. Impacts to singlewhorl burrobrush would be **potentially significant**, absent habitat-based mitigation measures (**BIO-1a** and **BIO-1b**), if unavoidable.

There are no other sensitive plant species that have high or moderate potential to occur within suitable habitat in the Tijuana River watershed.

Sensitive Wildlife Species

In the Tijuana River watershed, there are six sensitive wildlife species that were either observed during focused surveys (or during previous biological surveys) or have a high potential to occur in suitable habitat within the limits of MWMP facility segment maintenance areas, and, therefore, would be directly impacted by maintenance activities or by removal of this habitat. These species include coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, Ridgway's rail, and

yellow warbler. Additionally, raptors and other sensitive wildlife species, which include federally protected white-tailed kite, MSCP Covered Species northern harrier, California horned lark, monarch, and Cooper's hawk, have a high potential to occur or were observed within or adjacent to MWMP facility segments in the Tijuana River watershed. Eight sensitive wildlife species have moderate potential to occur within the Tijuana River watershed study area (see Appendix E of Appendix D). Further details regarding direct impacts to sensitive wildlife species within each of the facility segments in this watershed are provided in Appendix D. Impacts would be **potentially significant,** absent mitigation (**BIO-1a, BIO-2, BIO-4, BIO-5,** and **BIO-6**)

Indirect Impacts to Vegetation Communities

There were a total of 34 sensitive vegetation communities mapped within the MWMP Project Area.

Short-Term Indirect Impacts

Potentially significant short-term indirect impacts include potential for additional vegetation disturbance from human activities, adverse edge effects adjacent to preserves, potential increases in the spread of invasive plant and/or pest species, and potential adverse impacts due to storm water runoff pollution.

Implementation of EPs (see Section 5.3.5), including biological monitoring measures (**EP-BIO-3a, 3b**, and **3c)**, methods for successful removal of invasive species (**EP-BIO-4)**, proper treatment of all woody debris removed from facilities to avoid the spread of shot-hole borer (**EP-BIO-6)**, consistency with the MSCP/MHPA Land Use Adjacency Guidelines and Boundary Line Adjustment (BLA) requirements (**EP-LU-1** and **EP-LU-2**), and implementation of *Water Pollution Control Plan* (WPCP) measures **(EP-WQ-1),** would reduce short-term indirect impacts to sensitive vegetation communities to less than significant. More information regarding shot-hole borer is provided below.

Shot-Hole Borer

The spread of shot-hole borer invasive pest is a potential long-term indirect impact from maintenance associated with the MWMP. Within San Diego County, there have been two invasive shot hole borer beetles, Polyphagous shot hole borer (*Euwallacea* sp. #1) and Kuroshio shot hole borer (*Euwallacea* sp. #5), identified over the past several years.

These two morphologically indistinguishable shot-hole borers cause indirect impacts to riparian woody vegetation through the spread fungi that the beetle uses as a food source, including *Fusarium euwallaceae*, *Graphium euwallaceae*, and *Paracremonium pembeum*. These fungi species cause Fusarium dieback by stopping the flow of water and nutrients within the cambium layer of trees. Fusarium dieback occurs as the fungus colonizes within the tree's tissue, blocking the xylem vessels (Eskalen et al. 2013).

More than 148 native and non-native tree species in Southern California are known to be susceptible to shot-hole borer infestation, with additional species being observed regularly (Eskalen et al. 2013). The primary indicators of shot-hole borer include entrance hole borings of approximately 0.85 millimeters in diameter; staining of the wood surrounding the hole; and a sugary exudate, or gum-like residue. Advanced Fusarium dieback presents as limbs and trunk sections dying and falling to the ground, and ultimately death of the entire tree (Stouthamer et al. 2017).

During infestation, previously healthy mature native riparian tree species, such as willows, sycamores, and Fremont cottonwood (*Populus fremontii*), exhibit dieback of main branches and trunk sections, leaving standing snags. The cause for this pattern of standing snags is that shot-hole borers generally burrow their galleries in a singular plane (usually horizontal) once entering a tree trunk or limb (Stouthamer et al. 2017). This physically weakens the trunk/branch in that particular location, and physically disrupts water and nutrient flows beyond that plane intersection, essentially "starving" the remainder of that trunk/limb section. This inhibiting of water and nutrient flow is further exacerbated by the introduction of the fungus species for which shot-hole borer is a vector, which also inhibits water and nutrient transport. Shot-hole borer may cause long-term indirect impacts to riparian woody vegetation communities as a result of maintenance activities through introduction of the species and associated fungal infection to riparian areas where it was not previously present. Implementation of **EP-BIO-6** would reduce the potential for spread of shot-hole borer from maintenance activities to a level less than significant.

Long-Term Indirect Impacts

Long-term indirect impacts to sensitive vegetation communities may include adverse impacts associated with the spread of invasive plant or pest species, alteration of drainage patterns, and reduction in water quality conditions as a result of routine, repeated maintenance and removal of vegetation and sediment. Although implementation of EPs (see Section 5.3.5), including methods for successful removal of invasive species (**EP-BIO-4**), proper treatment of all woody debris removed from facilities to avoid the spread of shot-hole borer (**EP-BIO-6**), consistency with the MSCP/MHPA Land Use Adjacency Guidelines and BLA requirements (**EP-LU-1** and **EP-LU-2**), and preparation of a *Water Quality Pollution Control Plan* (**EP-WQ-1**), would reduce those potential impacts to less than significant, the potential for adverse impacts to sensitive vegetation communities due to alteration of drainage patterns and/or reduction in water quality conditions would be **potentially significant**, absent mitigation (**BIO-8**).

Indirect Impacts to Sensitive Plant Species

Most of the indirect impacts to vegetation communities cited above can also affect sensitive plants. In addition, where individual sensitive plant species occur adjacent to proposed MWMP facilities, the

potential for indirect impacts to sensitive plant species is increased. Indirect impacts to sensitive plant species are detailed by watershed in the BTR. Implementation of EPs (see Section 5.3.5), including biological monitoring measures (**EP-BIO-3a, 3b, and 3c)**, methods for successful removal of invasive species (**EP-BIO-4)**, proper treatment of all woody debris removed from facilities to avoid the spread of shot-hole borer (**EP-BIO-6)**, implementation sensitive plant species protection **(EP-BIO-5)**, consistency with the MSCP/MHPA – Land Use Adjacency Guidelines (**EP-LU-1**), and preparation of a WPCP (**EP-WQ-1**), would reduce indirect impacts to sensitive plant species to **less than significant**.

Indirect Impacts to Sensitive Wildlife Species

Many of the indirect impacts to vegetation communities and sensitive plants previously described can also affect sensitive wildlife due to the potential significant degradation of habitat used by wildlife. Wildlife may also be affected in the short term by indirect impacts such as emergency nighttime work, increased human presence, and maintenance-related noise (which can disrupt normal activities, cause lasting stress, and subject wildlife to higher predation risks). Indirect impacts to sensitive wildlife species are detailed by watershed in the BTR. Implementation of EPs (see Section 5.3.5), including biological monitoring measures (**EP-BIO-3a, 3b, and 3c)**, methods for successful removal of invasive species (**EP-BIO-4)**, proper treatment of all woody debris removed from facilities to avoid the spread of shot-hole borer (**EP-BIO-6)**, consistency with the MSCP/MHPA Land Use Adjacency Guidelines (**EP-LU-1**), and preparation of a WPCP (**EP-WQ-1**), would reduce indirect impacts related to habitat degradation to sensitive wildlife species to **less than significant**.

If maintenance is conducted adjacent to portions of the MHPA occupied by California gnatcatcher during the breeding season, these noise impacts would be **potentially significant** (**BIO-7**), absent mitigation.

Issue 2: Would the proposal result in a substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development Manual or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?

Project-Level Analysis (FMPs)

A total of 47 vegetation communities and/or land cover types were observed in the MWMP study area.

With implementation of the MWMP, impacts would occur to the following upland categories inside and outside the MHPA:

- Tier II – Coastal Sage Scrub (including disturbed and baccharis-dominated types);
- Tier IIIA – Chamise Chaparral;

- Tier IIIB – Non-Native Grassland; and
- Tier IV – Disturbed Land, Eucalyptus Woodland, Ornamental Plantings, and Urban/Developed land cover.

Lands designated as Tier IV are not considered to have significant habitat value and impacts would not be considered significant. Direct impacts to sensitive vegetation communities (i.e., Tier II, IIIA, and IIIB) in excess of allowable thresholds (see Section 5.3.5, Table 5.3-3), would result in a loss of sensitive vegetation identified in local and regional plans. Impact acreages are included in totals listed above for each watershed under Issue 1. Mitigation ratios for permanent impacts to sensitive vegetation communities are determined by their location within or outside of the MHPA. Previously permitted maintenance areas are eligible to submit proof of prior mitigation allocations under **EP-BIO-1.** Any unintended temporary impact areas in sensitive habitat communities, that are not anticipated to be impacted during future maintenance, would require restoration following the completion of construction. These impacts, therefore, would be **potentially significant,** absent mitigation (**BIO-1b** and **BIO-2).**

Impact acreages are included in totals listed in Table 5.3-5 for each watershed under Issue 1. Mitigation ratios for permanent impacts to sensitive vegetation communities are determined by the SDBG and the agency approvals for maintenance under the MWMP. Any unintended temporary impacts to sensitive jurisdictional resources would require restoration following the completion of construction, in addition to further mitigation applied at the appropriate ratio for the resource unintentionally impacted.

Issue 3: Would the proposal result in a substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through direct removal, filling, hydrological interruption, or other means?

Project-Level Analysis (FMPs)

From the 47 total vegetation communities and/or land covers observed in the MWMP Project Area, 32 are considered jurisdictional resources. These resources are categorized as either wetlands or non-wetland waters under the jurisdiction of USACE, RWQCB, CDFW, CCC, and/or the City. With implementation of the MWMP, impacts would occur to the following wetland habitat types inside and outside the Coastal Overlay Zone:

- Wetlands (earthen):
  - Freshwater Marsh
  - Coastal Salt Marsh
  - Disturbed Freshwater Marsh

  - Riparian Forest
    - Disturbed Riparian Forest
    - Riparian Forest (southern riparian forest)
    - Disturbed Riparian Forest (southern riparian forest)
    - Riparian Forest (southern willow forest)
    - Disturbed Riparian Forest (southern willow forest)
    - Riparian Forest (coast live oak)
  - Riparian Scrub
    - Riparian Scrub (mulefat scrub)
    - Riparian Scrub (southern willow scrub)
    - Tamarisk Scrub
  - Disturbed Wetland
- Wetlands (concrete-lined):
  - Freshwater Marsh
  - Riparian Forest
    - Riparian Forest (southern riparian forest)
    - Disturbed Riparian Forest (southern willow forest)
    - Riparian Forest (southern willow forest)
  - Riparian Scrub
    - Riparian Scrub (southern willow scrub)
  - Disturbed Wetland
    - Ornamental Planting (concrete-lined)
    - Concrete-Lined Channel (unvegetated)
- Wetlands (Invasive-Dominated):
  - Disturbed Wetland (Arundo-dominated)
  - Disturbed Wetland (Arundo-dominated, concrete-lined)
  - Disturbed Wetland (castor bean-dominated)
  - Disturbed Wetland (palm-dominated)
- Natural Flood Channel (non-wetland waters)

Significance thresholds are described in Section 5.3.5 and specifically Table 5.3-3. Impacts to wetlands below the significance thresholds would be **less than significant**. All other impacts to

lands mapped as wetland or non-wetland waters would be **potentially significant**, absent mitigation **(BIO-1a and BIO-2).**

Impact acreages are included in totals listed in Table 5.3-5 for each watershed under Issue 1. Mitigation ratios for permanent impacts to sensitive vegetation communities are determined by the SDBG and the agency approvals for maintenance under the MWMP. Any unintended temporary impacts to sensitive jurisdictional resources would require restoration following the completion of construction, in addition to further mitigation applied at the appropriate ratio for the resource unintentionally impacted.

Issue 4: Interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or impede the use of native wildlife nursery sites?

Project-Level Analysis (FMPs)

No new facilities are proposed and, therefore, no direct, long-term changes to existing wildlife corridors would occur as a result of the MWMP. The majority of the MWMP existing facilities are located within urban areas surrounded by fencing and other development such that either the facilities does not provide access to suitable habitat for wildlife or it would not be feasible for wildlife to access and use them as corridors to core habitat areas. However, for facilities where short-term maintenance work proposed under the MWMP could disrupt wildlife movement, the effect would be due to temporary increases in human activity and noise. The facilities where the greatest likelihood for short-term affects on wildlife movement to occur from maintenance are those located within or partially within the following MSCP biological core and linkage areas: Los Peñasquitos Canyon, Los Peñasquitos Lagoon/Soledad Canyon Creek, San Diego River, and the Tijuana River Valley (see Appendix D – Biological Resources Technical Report, Figures 3A–3C). In addition, there are smaller, local wildlife movement areas associated with additional areas in the MHPA (e.g., Carroll Canyon Creek, Alvarado Canyon Creek, Chollas Creek, and Norfolk Canyon Creek).

For the majority of MWMP facilities, maintenance would be completed in 45 days or less (e.g., mobilization, post-construction BMPs), with more than half of those efforts being completed in two weeks or less. Given the short duration of activities, regardless of the location in a larger biological core/linkage area or in a local movement area, temporary adverse wildlife usage effects associated with maintenance would not be expected to interfere substantially with overall wildlife usage of the corridor or long-term suitability of the habitat in that area for wildlife movement. For example, in Los Peñasquitos Canyon and along the San Diego River, MWMP facilities are limited to tributaries and occupy a limited, narrow portion of the available habitat for wildlife usage. In areas where

wildlife usage may be more constricted (e.g., Carroll Canyon Creek or Alvarado Canyon Creek), wildlife movement in the area may be more severely impacted. However, the impacts of maintenance activities would be short in duration, and wildlife usage of the corridor would be expected to recover after maintenance. In most cases, increased human activities associated with storm water facility maintenance would be similar to other occasional urban disturbance, such as road and building construction. Additionally, except in emergency situations where maintenance during the night is necessary to protect life and/or property, work under the MWMP would only be conducted during daylight hours, which is when wildlife movement is less likely to occur, so nocturnal wildlife movement would still be possible during maintenance.

The only facility in the MSCP biological core and linkage areas or MHPA where maintenance would occur for more than 45 days is Tijuana River – Pilot and Smuggler's Facility Group. Maintenance of this facility has the potential to significantly disrupt wildlife usage of the habitat in the area, and could reduce wildlife movement functions. However, this project has been previously authorized by all required resource agencies, and the adverse effects on wildlife, including federally listed species, have been mitigated. Maintenance of this facility also provides benefits to the wildlife habitat quality of the river valley by removing excess sediment, trash, and debris.

In addition, implementation of **EP-LU-1** would ensure compliance with the MSCP/MHPA Land Use Adjacency Guidelines. Therefore, impacts to wildlife corridors from activities proposed under the MWMP would be **less than significant.**

Issue 5: A conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, either within the MSCP plan area or in the surrounding region?

Project-Level Analysis (FMPs)

The City's permit to "take" Covered Species under the MSCP is based primarily on the concept that 90% of lands within the MHPA will be conserved. The City's take permit for MSCP Covered Species also includes additional species-specific requirements for avoidance and mitigation for unavoidable impacts. Although encroachment into the MHPA would occur as part of the MWMP, the proposed storm water facility maintenance would be considered an Essential Public Project (City of San Diego 2018) and an allowed use within the MHPA. Therefore, MWMP maintenance and repair activities would not require a boundary adjustment. Required compensatory mitigation may include sites that involve a BLA; compensatory mitigation, including those that would result in potential impacts to the MHPA, are addressed programmatically in Section 5.3.7.

The City's MSCP Subarea Plan lists Essential Public Project as conditionally compatible with the biological objectives of the MSCP and allowed within the City's MHPA. Conditions of compatibility include

compliance with applicable sections of the MSCP Subarea Plan, including Section 1.4.2 (General Planning Policies and Design Guidelines; in particular the Flood Control portion), Section 1.4.3 (Land Use Adjacency Guidelines; in particular the Drainage portion), and Section 1.5 (Framework Management Plan; in particular the Flood Control portion). A matrix documenting MWMP compliance with the MSCP, including the sections listed above, is provided as Table 5.8-2 in the Land Use section of this EIR. The MWMP is considered an Essential Public Project, and based on land use consistency documented in Table 5.8-2, complies with the City's MSCP Subarea Plan, Municipal Code, and SDBG (City of San Diego 2018). In addition, implementation of **EP-LU-1** would ensure compliance with the MSCP/MHPA Land Use Adjacency Guidelines. Based on this consistency, impacts related to a conflict with MSCP or surrounding conservation plans would be **less than significant.**

Issue 6: Would the project introduce land use within an area adjacent to the MHPA that would result in adverse edge effects?

Project-Level Analysis (FMPs)

As previously stated in the response to Issues 1 and 5, because there are MWMP facility segment maintenance areas that occur within and adjacent to the MHPA, the project includes EPs and is required to document compliance with the MSCP Land Use Adjacency Guidelines. As demonstrated in Table 5.8-2 (Land Use section of this EIR), the proposed MWMP would not conflict with the City's MSCP. Implementation of EPs (**EP-BIO-3a, 3b, 3c, EP-BIO-4, EP-BIO-6, EP-LU-1,** and **EP-WQ-1**) would reduce most long-term indirect impacts (i.e., adverse edge effects) to **less than significant** through incorporation of biological monitoring measures, methods for successful removal of invasive species, proper treatment of all woody debris removed from facilities to avoid the spread of shot-hole borer, implementation of MSCP Land Use Adjacency Guidelines and WPCP measures.

However, the potential for adverse impacts due to alteration of drainage patterns and/or the reduction in water quality conditions would be **potentially significant**, absent mitigation **(BIO-8)**.

Issue 7: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Project-Level Analysis (FMPs)

As mentioned above, the MWMP is an Essential Public Project according to the SDBG since it will maintain existing public infrastructure through the removal of vegetation and sediment from existing open drainage conveyance facilities. Based on the SDBG, the proposed project impacts to the MHPA outside of the COZ, including impacts to wetlands, may be considered only if the project alignment is shown to be "located on the least sensitive portion of the site."

The BTR (Appendix D) includes a detailed analysis of MWMP compliance with deviation requirements under the Essential Public Projects Option of the LDC. This analysis is summarized in Table 5.3-6.

Table 5.3-6
Summary of Compliance with Wetland Deviation Requirements
Under Land Development Code Essential Public Project Option

Requirement	MWMP Compliance
Project meets Essential Public Project definition as defined in Land Development Code (LDC) Section 143.0150(d)(1) and the San Diego Biology Guidelines (SDBG)	The *Municipal Waterways Maintenance Plan* (MWMP) meets the Essential Public Project definition as stated in Land Development Code (LDC) Section 143.0150(d)(1)(ii) and (iii) and the San Diego Biology Guidelines (SDBG) because the activities described are linear infrastructure, including storm water conveyance systems, including appurtenances, or the maintenance of existing infrastructure. The MWMP activities consist of maintenance and repair of existing public infrastructure to provide flood control and protection for the City of San Diego (City) through the removal of accumulated vegetation, sediment, trash, and debris, and repair of damaged infrastructure within the City's storm water conveyance system.
No Project Alternative does not meet project objectives	The No Project Alternative would result in an unacceptable level of flood risk for many areas of the City compared with implementation of the MWMP.
Wetlands Avoidance Alternative does not meet project objectives	Wetland avoidance alternatives are not feasible either due to the inadequate function of low-impact development or the cost and additional time required to construct Capital Improvement Program projects that could reduce or eliminate the need for maintenance.
Wetland Impact Minimization Alternatives do not meet project objectives	Wetland impact minimization alternatives would result in an increased flood risk in many areas of the City compared to implementation of the MWMP.
Wetland impacts are minimized to the maximum extent practicable	Maintenance and repair identified in the MWMP is limited to those locations where such activities are necessary to reduce flood risk or repair damaged infrastructure, and further minimization would not meet the project objective.
All impacts are mitigated in accordance with SDBG Table 2a	SDBG Table 2a is incorporated into MM-BIO-1a and required for all maintenance activities that would result in significant impacts to wetlands.
Project does not have a significant adverse impact to the MSCP or the *Vernal Pool Habitat Conservation Plan*	As discussed in Section 4.13, with the incorporation of Environmental Protocols and Mitigation Measure, including adherence to MHPA Land Use Adjacency Guidelines and Multiple Species Conservation Program (MSCP) species-specific requirements, the project would not have a significant adverse impact related to the MSCP or the *Vernal Pool Habitat Conservation Plan*.

Similarly, the proposed "development" within COZ typically requires an Economically Viable Use Determination. However, this determination is not applicable to a public storm water maintenance

project (due to the need for maintenance to benefit the health and safety of the public and not to create an economic use of the property), therefore it is not provided as part of the MWMP. Chapter 5.8 (Land Use) of this EIR includes an analysis of consistency with the adopted LCP local coastal plans where MWMP FMPs are proposed. It is expected that this analysis of consistency will be sufficient to demonstrate that impacts to the MHPA, including wetlands, within the COZ are consistent with the allowed use determination provided in the SDBG.

The City's Public Tree Protection Policy of 2005 defines potentially qualifying public trees as trees having a single trunk or distinctive multiple trunks, with a caliper of at least 8 inches measured at 4 feet above the ground surface. Once nominated, a qualifying public tree must be evaluated for consideration, which will require the tree to be added to the tree removal review process, as currently performed by the City's Street Division (City of San Diego 2005). The Public Tree Protection Policy does not apply to trees within storm water facilities because such trees are not part of a landscaped right-of-way or other public setting and not covered under the policy.

Based on compliance with existing regulations incorporated into the MWMP, impacts related to compliance with ESL and the Public Tree Protection Policy would be **less than significant.**

5.3.7 PROGRAM-LEVEL ANALYSIS (OTHER MWMP ACTIVITIES)

Programmatic activities would include minor maintenance activities, changed conditions or new/substantially amended FMPs, new compensatory mitigation sites, and emergency maintenance or repair. Under the MWMP, these additional programmatic activities are subject to the review and approval processes outlined in the MWMP.

Some programmatic activities may occur within the 66 facility groups evaluated above. For these activities at these locations, a project-level analysis of potential biological resource impacts has been completed, and project design features and mitigation measures would apply. This section deals primarily with programmatic activities outside of the 66 facility groups evaluated in Tables 5.6-4 and 5.6-6 in Section 5.6 of this EIR.

Programmatic Maintenance Activities

Proposed MWMP programmatic maintenance activities include vegetation management, sediment/debris removal, drain structure/structural clearing, and invasive plant species management. Where applicable, concrete repair and bank repair may also occur. Activities may be performed within and adjacent to both earthen and concrete facilities and have potential for impacts to biological resources. Quantification of potential program-level impacts resulting from these maintenance activities requires evaluation of site-specific factors and will be conducted as part of the SCR process.

Regarding Issues 1 through 7, programmatic maintenance activities may result in habitat modifications on sensitive species similar to those identified under the project-level analysis for FMPs, including direct impacts to sensitive vegetation communities (i.e., Tier I–III and Wetlands) and jurisdictional aquatic resources, sensitive plants, and sensitive wildlife species locations. Consistent with the thresholds presented in Section 5.3.5 and the analysis presented in Section 5.3.6, programmatic maintenance activities would be **potentially significant**, absent mitigation **(BIO-1a, BIO-1b, BIO-2, BIO-3, BIO-4, BIO-5, and BIO-6).**

Short-term indirect impacts to sensitive vegetation communities that may support sensitive species may occur during programmatic maintenance but similar to project-level activities, would be **less than significant,** with implementation of EPs **(EP-BIO-3a, EP-BIO-3b, EP-BIO-3c, EP-BIO-4, EP-BIO-6, EP-LU-1**, and **EP-WQ-1).** Long-term indirect impacts to biological resources related to potential for the spread of invasive plant or pest species from programmatic maintenance activities would be **less than significant**, given implementation of EPs (**EP-BIO-4, EP-BIO-6, EP-LU-1**, **EP-LU-2**, and **EP-WQ-1)**. However, long-term indirect impacts related to potential alteration of drainage patterns and/or reduction in water quality conditions that may occur due to programmatic maintenance activities would be **potentially significant**, absent mitigation **(BIO-8)**.

Indirect impacts of programmatic maintenance activities to sensitive plant and most wildlife species would also be similar those identified in the project-level analysis and would be **less than significant,** with implementation of EPs **(EP-BIO-3a, EP-BIO-3b, EP-BIO-3c, EP-BIO-4, EP-BIO-5, EP-BIO-6, EP-LU-1**, **EP-LU-2**, and **EP-WQ-1).** However, if programmatic maintenance is conducted adjacent to portions of the MHPA occupied by California gnatcatcher during the breeding season, these potential noise impacts would be **potentially significant**, absent mitigation **(BIO-7)**.

Impacts related to the movement of any native resident or migratory fish, wildlife species, or an established native resident or migratory wildlife corridors or compliance with the MSCP and surrounding conservation plans would be **less than significant.**

Adverse effects to adjacent sensitive vegetation communities may still occur during programmatic maintenance, but similar to project-level activities, most of these impacts would be **less than significant,** with implementation of EPs **(EP-BIO-3a, EP-BIO-3b, EP-BIO-3c, EP-BIO-4, EP-BIO-6, EP-LU-1**, and **EP-WQ-1).** However, the potential for adverse edge effects related to alteration of drainage patterns and/or reduction in water quality conditions would be **potentially significant**, absent mitigation (**BIO-8**).

Programmatic Compensatory Mitigation Sites

The City's Transportation & Storm Water Department plans to create, restore, rehabilitate, and/or enhance native riparian and wetland habitats at a variety of potential mitigation sites. A summary of

existing and future potential compensatory mitigation sites is provided as Appendix F of the BTR (Appendix D). The majority of the potential mitigation sites are located on disturbed lands, area dominated by invasive species or upland habitats. This work would be implemented systematically in accordance with the City's MSCP and applicable regulatory agency permits, with the goal of providing compensatory mitigation credits for impacts from proposed maintenance activities associated with the MWMP in the form of long-term, self-sustaining ecological improvements to these areas. Each proposed mitigation site would be subject to review and approval from USACE, RWQCB, CDFW, and CCC (as applicable).

Compensatory mitigation projects involving creation, restoration, and/or rehabilitation would typically involve vegetation removal (primarily non-native species), grading (typically to remove soil to modify site hydrology), and in some cases, can involve removal of structures (e.g., concrete channel lining). After initial site preparation, planting and temporary irrigation are installed, followed by a maintenance and monitoring program. Mitigation projects consisting of enhancement only, typically require vegetation removal, planting, irrigation, followed by site maintenance and monitoring.

Compensatory mitigation within the City's MSCP is required to meet the following three elements: 1) Mitigation Element, 2) Protection and Notice Element, and 3) Management Element. Requirements of the Mitigation Element are incorporated into **MM-BIO-1a**, **MM-BIO-1b**, and **MM-BIO-3** and include required ratios, no-net-loss of wetlands, options for satisfying mitigation (including revegetation/restoration plan requirements, mitigation bank credits, acquisition, monetary compensation, etc.), and species-specific mitigation measures.

An HMMP (i.e., Revegetation/Restoration Plan) would be developed for each mitigation project and would confirm with the City's SDBG (Appendix II – Attachment III), U.S. Environmental Protection Agency and U.S. Army Corps of Engineers compensatory mitigation final rule (EPA and USACE 2008). The HMMP includes a description of the proposed activities, monitoring and maintenance requirements, anticipated mitigation acreage/credit, required performance standards, and long-term protection measures. The HMMP is used to obtain regulatory approvals which set the requirements for mitigation implementation, assignment of mitigation acreages/credits, and performance standards to determine if the mitigation was completed successfully. Mitigation projects would provide mitigation acreage for impacts associated with maintenance at specific facilities identified in the MWMP or would result in mitigation credits for multiple facilities. Mitigation credits would confirm with USACE's Memorandum for the Record for City of San Diego APRM (USACE 2015).

The long-term protection measures outlined in the HMMP must meet the Protection and Noise Element and Management Element of the MSCP Subarea Plan. For Protection and Noise, recorded site protections are required for land not already owned by the City. For such properties, land must be dedicated to the City or other conservation entity, or a covenant of easement much be recorded

with the CDFW and USFWS named as third-party beneficiaries. The covenant would be required to incorporate permissible passive activities and other restrictions.

In terms of the Management Element requirements, the HMMP must identify how the objective of the MSCP Preserve Management (Section 1.5 of the Subarea Plan) will be met, including identification of the responsible entity and funding source. If the City holds the fee title or is granted a conservation easement, it will be responsible for management of the mitigation area. If the City does not hold fee title or a covenant of easement is not granted, then a responsible entity must be identified, along with a secure funding source to pay for management in perpetuity.

Areas that are not currently in the City MSCP MHPA may require an MHPA BLA to provide additional long-term protection and assurance mitigation sites remain are conserved in perpetuity. Section 1.1.1 of the City's MSCP Subarea Plan (City March 1997), "[a]djustments to the MHPA boundaries may be made without the need to amend either this Subarea Plan or the MSCP Plan in cases where the new MHPA boundary results in an area of equivalent or higher biological value" and that "[t]he determination of the biological value of a proposed boundary change will be made by the City in accordance with the MSCP Plan, with the concurrence of the wildlife agencies." Section 5.4.2 of the Final MSCP Plan (August 1998) sets forth six criteria that City and wildlife agency staff use to determine if a proposed BLA meets the "functional equivalency" test. Wildlife agency concurrence on BLA findings would occur through a City discretionary action that includes a public notice and appeal process.

Construction of mitigation projects would be required to comply with applicable regulations, including the construction general permit (which typically requires preparation of a Storm Water Pollution Prevention Plan or WPCP that dictates the placement of Best Management Practices to reduce the potential for pollutant runoff during construction), the MBTA (that requires avoidance of take of active bird nests), and the MSCP Land Use Adjacency Guidelines (that prohibits use of nighttime lighting and ensures that other indirect impacts are minimized).

Based on this description of compensatory mitigation implementation, the following program-level analysis of potential impacts was developed and includes determinations of significance and mitigation, where applicable (Table 5.3-7).

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Table 5.3-7
CEQA Analysis of the Impacts of Implementing MWMP Required Compensatory Mitigation

MWMP CEQA Impact Threshold	Impact Analysis	Environmental Protocols and Mitigation Measures
Aesthetics/Visual Effects and Neighborhood Character		
Issue 1: Would the project result in a substantial obstruction in any vista or scenic view from a public viewing area as identified in the community plan?	Programmatic mitigation activities may be visible from a community plan identified vista, scenic view, or public vantage point and may entail the introduction of new vegetation. Depending on location, new vegetation could result in substantial view blockage or interruption. Therefore, program-level activities (primarily consisting of construction of new compensatory mitigation sites) conducted under the MWMP that would entail the introduction of new vegetation would be **potentially significant** (**AES-1**).	**MM-AES-1 Visual Analysis for Program Activities.** Where program activities, including construction of compensatory mitigation sites, would entail the introduction of new vegetation and (potential) substantial view blockage or interruption of a community plan identified vista, scenic view or public vantage point, additional analysis shall be conducted. The analysis shall consider the nature of program-level activities; proximity to community plan identified vista, scenic view or public vantage point; and potential for program-level activities to result in substantial, long-term view obstruction. If the analysis determines that substantial view obstruction may occur, then additional mitigation, including the selection of plants and trees with a shorter form, shall be considered in planting palettes to maintain existing view corridors at community plan identified views, scenic vistas or public vantage points.
Issue 2: Would implementation of the project result in a negative aesthetic site or result in substantial alteration to the existing or planned character of the area, such as could occur with the construction of a subdivision in a previously undeveloped area? **Issue 3**: Would the project result in bulk, scale, materials, or style which would be incompatible with surrounding development?	The analysis of project-level and programmatic maintenance activities indicates that the visual effects associated with maintenance activities would not be noticeable to nearby residents or public users and would not alter the characteristics displayed by in-facility vegetation. This is based on the fact that changes in vegetation caused by maintenance are consistent with the existing expectations of vegetation fluctuations within storm water facilities. Similarly, programmatic mitigation activities would occur in existing open space areas where vegetation naturally shifts seasonally and over time. Therefore programmatic mitigation activities would not result in a substantial long-term contrast that would fundamentally and permanently alter the character of a particular area and would not result in a negative aesthetic site, substantial alteration to the existing or planned character of the area, or incompatibility with surrounding development. Impacts would be **less than significant**.	N/A
Issue 4: Would the project result in the loss of any distinctive or landmark tree(s), or stand of mature trees as identified in a community plan?	Programmatic mitigation activities are unlikely to result in the removal of a stand of mature trees, distinct trees, or landmark trees identified in a community plan. Impacts would be **less than significant**.	N/A
Issue 5: Would the project result in a substantial change to natural topography or other ground surface relief features through landform alteration?	MWMP maintenance and repair activities are considered less than significant and programmatic mitigation activities would be also **less than significant** for similar reasons (e.g., lack of substantial topographic changes).	N/A
Air Quality and Odor		
Issue 1: Would the project conflict with or obstruct implementation of the applicable air quality plan?	MWMP maintenance and repair activities are considered less than significant and programmatic mitigation activities would be also **less than significant** for similar reasons (e.g., mitigation would not provide for residential development growth or local employment growth).	N/A
Issue 2: Would the project expose sensitive receptors to substantial pollutant concentrations?	MWMP maintenance and repair activities are considered less than significant and programmatic mitigation activities would be also **less than significant** for similar reasons (e.g., work would be temporary, would not be a source of daily, long-term mobile-source emissions, would not include	**MM-AQ-1**

Table 5.3-7
CEQA Analysis of the Impacts of Implementing MWMP Required Compensatory Mitigation

MWMP CEQA Impact Threshold	Impact Analysis	Environmental Protocols and Mitigation Measures
	sensitive land uses nor would it generate substantial short-term toxic air contaminants, and would not occur in an area with a high incidence rate of Coccidioidomycosis (Valley Fever)). *Health Impacts of Criteria Air Pollutants* Because estimated emissions resulting from implementation of 10 concurrent maintenance activities would exceed the SDAPCD screening-level threshold for NO_x during implementation of the MWMP, the addition of concurrent equipment operated to implement programmatic mitigation activities could result in a **potentially significant** contribution to regional concentrations of non-attainment pollutants; therefore, mitigation is required. Health impacts that result from NO_2 and NO_x include respiratory irritation; however, because the majority of programmatic mitigation activities would be short term activities, nearby receptors would not be exposed off-road equipment exhaust for a prolonged period of time. Therefore, potential health impacts associated with NO_2 and NO_x would be **less than significant**. CO tends to be a localized impact associated with congested intersections. The associated potential for CO hotspots was determined to be a **less-than-significant** impact. Thus, programmatic mitigation activities' CO emissions would not contribute to significant health effects associated with this pollutant. Construction activities associated with the programmatic mitigation activities would not exceed thresholds for PM_{10} or $PM_{2.5,}$ would not contribute to exceedances of the NAAQS and CAAQS for particulate matter, and would not obstruct the SDAB from coming into attainment for these pollutants. The programmatic mitigation activities would also not result in substantial DPM emissions during construction and, therefore, would not result in significant health effects related to DPM exposure. Because the minimal contribution of particulate matter during construction, health impacts would be **less than significant**. *Valley Fever Exposure* Based on the low incidence rate of Coccidioidomycosis in the MWMP area and in greater San Diego County, and the programmatic mitigation activities' implementation of dust control strategies, it is not anticipated that earth-moving activities during proposed maintenance activities would result in exposure of nearby sensitive receptors to Valley Fever. Therefore, programmatic mitigation activities would have a **less than significant** impact with respect to Valley Fever exposure for sensitive receptors.	
Issue 3: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	MWMP maintenance and repair activities would be **less than significant** and programmatic mitigation activities would be also **less than significant** for similar reasons (e.g., odors generated would be temporary).	N/A
Issue 4: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which	The combined emissions of the 10 concurrent maintenance activities, which represent the maximum daily construction scenario, exceed the project-level SDAPCD significance threshold for NO_x prior to the	**MM-AQ-1**

Table 5.3-7
CEQA Analysis of the Impacts of Implementing MWMP Required Compensatory Mitigation

MWMP CEQA Impact Threshold	Impact Analysis	Environmental Protocols and Mitigation Measures
the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for O3 precursors)?	City's implementation of air quality mitigation. Should other projects, such as implementation of compensatory biological mitigation, occur in the vicinity of the MWMP, significant effects related to NO_x emissions could be further intensified due to roadway emissions from motor vehicles proximate to many MWMP activity areas, including development of mitigation sites; therefore, this impact would be **potentially significant** absent air quality mitigation.	
	Biological Resources	
Issue 1: Would the proposal have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in the MSCP or other local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?	MWMP programmatic mitigation activities may include activities in both upland and wetland habitats, occupied or potentially utilized by sensitive species. Activities within wetlands are required to result in a net benefit to wetland habitat areas, as verified through preparation and regulatory approval of an HMMP. Therefore, impacts to sensitive wetlands would be **less than significant.** In some cases, wetlands mitigation projects are developed in existing upland areas and can result in a net loss of sensitive upland (Tier II or III) habitat areas. Such impacts would be **potentially significant** absent mitigation. During construction of mitigation sites, impacts may inadvertently occur outside of the approved limits of work. Such unauthorized impacts to sensitive upland or wetland habitats would be **potentially significant** absent mitigation. Mitigation sites would typically be designed to avoid significant impacts to sensitive plant species requiring species-specific mitigation (Table 5.3-4a). In cases where impacts are unavoidable, impacts to sensitive plant species would be **potentially significant** absent mitigation. Mitigation sites are often adjacent to existing habitat for sensitive wildlife species and therefore direct impacts to sensitive wildlife species and indirect noise impacts to California gnatcatcher would be **potentially significant** absent mitigation. Programmatic mitigation activities may result in a numerous indirect impacts to sensitive vegetation communities, sensitive species and associated habitats during construction including spread of invasive species, shot-hole borer beetle, and potential impacts to adjacent sensitive species. These impacts would be **less than significant** with implementation of EPs.	**MM-BIO-1a; MM-BIO-1b**; **MM-BIO-2**; **MM-BIO-3**; **MM-BIO-4**; **MM-BIO-5**; **MM-BIO-6;** and **MM-BIO-7**. **EP-BIO-3a**; **EP-BIO-3b**; **EP-BIO-3c**; **EP-BIO-4**; **EP-BIO-5; EP-BIO-6**; **EP-LU-1; EP-LU-2;** and **EP-WQ-1**
Issue 2: Would the proposal result in a substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development Manual or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?	Potential MWMP programmatic mitigation activities could potentially result in significant impacts to upland habitats and/or unintended temporary impact areas in sensitive habitat communities would require restoration following the completion of construction. These impacts would be **potentially significant**, absent mitigation.	**MM-BIO-1b** and **MM-BIO-2**
Issue 3: Would the proposal result in a substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through direct	Potential MWMP programmatic mitigation activities are expected to result in net benefits to wetlands areas and functions and, therefore, these impacts would be **less than significant.**	N/A

Table 5.3-7
CEQA Analysis of the Impacts of Implementing MWMP Required Compensatory Mitigation

MWMP CEQA Impact Threshold	Impact Analysis	Environmental Protocols and Mitigation Measures
removal, filling, hydrological interruption, or other means?		
Issue 4: Interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or impede the use of native wildlife nursery sites?	Potential MWMP programmatic mitigation activities are expected to result in net benefits to the movement of any native resident or migratory fish or wildlife species and, therefore, these impacts would be **less than significant**.	N/A
Issue 5: A conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, either within the MSCP plan area or in the surrounding region?	Potential MWMP programmatic mitigation activities are expected to comply with the City's MSCP MHPA requirements, including the Land Use Adjacency Guidelines, and, therefore, these impacts would be **less than significant**. Some compensatory mitigation sites may require a Boundary Line Adjustment to add the mitigation site, a portion of the site, and/or buffers to the MHPA. No reductions in the MHPA are anticipated, except to possibly correct MHPA boundaries to conform with natural versus urbanized areas. It is expected that required findings showing a net benefit to MSCP covered species would be made and impacts to the MSCP from potential Boundary Line Adjustments would be **less than significant.**	**EP-LU-1 and EP-LU-2**
Issue 6: Would the project introduce land use within an area adjacent to the MHPA that would result in adverse edge effects?	Potential MWMP programmatic mitigation activities would create land uses that do not result in adverse edge effects and, therefore, these impacts would be **less than significant**.	**EP-LU-1 and EP-LU-2**
Issue 7: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	The proposed MWMP, including programmatic mitigation activities, would comply with the City's Public Tree Protection Policy; therefore, this impact would be **less than significant**.	N/A
Greenhouse Gas Emissions (GHG)		
Issue 1: Would the proposal generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment? **Issue 2:** Would the project conflict with the City's Climate Action Plan or another applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Similar to MWMP maintenance activities, programmatic mitigation activities would result in GHG emissions primarily associated with use of off-road equipment, on-road hauling and vendor trucks, and worker vehicles. However, similar to MWMP maintenance activities, programmatic mitigation activities would be consistent with each of the CAP strategies and with implementation of EP-SW-1 through EP-SW-8, impacts would be **less than significant**.	**EP-SW-1**; **EP-SW-2**; **EP-SW-3**; **EP-SW-4**; **EP-SW-5**; **EP-SW-6**; **EP-SW-7**; and **EP-SW-8**
Geologic Conditions		
Issue 3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Programmatic mitigation activities would follow all applicable seismic standards and geotechnical engineering practices when bypass structures, access roads, or stockpiling of materials is necessary. When needed, an evaluation would be conducted to determine bank, soil, or slope stability. When necessary, stabilization would be implemented in locations that are documented during the site assessments and when the engineering team has deemed the condition as needing additional evaluations. Implementation of EP-GEO-1 would ensure impacts would remain **less than significant**.	**EP-GEO-1**

Table 5.3-7
CEQA Analysis of the Impacts of Implementing MWMP Required Compensatory Mitigation

MWMP CEQA Impact Threshold	Impact Analysis	Environmental Protocols and Mitigation Measures
	Health and Safety Hazards	
Issue 1a: Would the project expose people or structures either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires? **Issue 1b:** Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? **Issue 1c:** Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? **Issue 1d:** Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Similar to MWMP maintenance activities, programmatic mitigation activities would not result in such risk exposures and, therefore, this impact would be **less than significant**.	N/A
Issue 2: Would any component of the project be located on a site that is included on a hazardous material sites list compiled pursuant to Government Code Section 6596.25 and, as a result, pose a significant hazard to the public or environment?	Similar to MWMP maintenance activities, potential programmatic mitigation activities may come into contact with unexpected hazardous materials or known contaminated sites listed pursuant to Government Code Section 6596.25. Thus, with implementation of EP-HAZ-1, EP-HAZ-2, and EP-HAZ-3, impacts would be **less than significant**.	**EP-HAZ-1**; **EP-HAZ-2; EP-HAZ-3**
Issue 3: Would the project result in hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within a quarter-mile of an existing or proposed school?	Similar to MWMP maintenance activities, programmatic mitigation activities have the potential to encounter unknown hazardous materials or contaminated soils, which could possibly create a hazard within one-quarter mile of a school. Thus, with implementation of EP-HAZ-2, impacts would be **less than significant**.	**EP-HAZ-2**
Issue 4: Would the project expose people to toxic substances through reasonably foreseeable conditions, such as pesticides and herbicides, some of which have long-lasting ability, applied to the soil during previous agricultural uses?	MWMP programmatic mitigation activities have the potential to encounter soils that have been contaminated by previous agricultural use or could expose people or the environment to hazardous conditions. Thus, with implementation of EP-HAZ-1, EP-HAZ-2, and EP-HAZ-3, impacts would be **less than significant**.	**EP-HAZ-1**; **EP-HAZ-2; EP-HAZ-3**
	Historical and Cultural Resources	
Issue 1: Would the project result in an alteration, including the adverse physical or aesthetic effects and/or the destruction of a prehistoric or historic building (including an architecturally significant building), structure, object, or site, or existing religious or sacred use?	<u>Cultural Resources</u> MWMP maintenance activities have potential to impact previously undiscovered cultural resources including TCRs and/or grave sites. No known religious or sacred uses have been identified within the MWMP APE however, mitigation sites were not included in the APE and there is potential for these to	**MM-CR-1**; **MM-CR-2**; **MM-CR-3**; and **MM-CR-4** **MM-HR-1** and **MM-HR-2**

Table 5.3-7
CEQA Analysis of the Impacts of Implementing MWMP Required Compensatory Mitigation

MWMP CEQA Impact Threshold	Impact Analysis	Environmental Protocols and Mitigation Measures
	be encountered during future mitigation activities. Impacts to previously undiscovered cultural or archaeological resources due to MWMP programmatic mitigation activities would be **potentially significant**. <u>Historical Resources</u> MWMP programmatic mitigation sites were not evaluated to determine if any historical resources are listed in or eligible for listing in the CRHR or NRHP. Therefore, MWMP mitigation activities have potential to impact historic resources and such impacts would be **potentially significant**.	
Issue 2: Would the project result in the disturbance of any human remains, including those interred outside of formal cemeteries?	Similar to maintenance activities, MWMP mitigation activities that would include ground disturbance have potential to impact human remains and as such would be **potentially significant**.	**MM-CR-1**
Issue 3: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe?*	Formal tribal consultation has been conducted with representatives from two local California Native American Kumeyaay tribes. Any information regarding tribal cultural resources discussed during consultation has been incorporated into this EIR related to the MWMP mitigation activities. MWMP maintenance activities have the potential to impact previously undiscovered tribal cultural resources (TCRs) as defined in Public Resources Code Section 21074. Although no known religious or sacred uses have been identified within the MWMP Area of Potential Effects (APE), mitigation sites were not included in the APE and there is potential for TCRs to be encountered during future mitigation activities. Impacts to previously undiscovered TCRs due to MWMP programmatic mitigation activities would be **potentially significant**.	**MM-CR-1**; **MM-CR-2**; **MM-CR-3**; **and MM-CR-4**
Hydrology		
Issue 1: Would the project result in a substantial increase in impervious surfaces and associated increased runoff?	Similar to MWMP maintenance activities, mitigation activities would not include increases in impervious surfaces and would not increase runoff. Therefore, these impacts would be **less than significant**, and no mitigation is required.	N/A
Issue 2: Would the project result in substantial alteration to on- and off-site drainage patterns due to changes in runoff flow rates or volumes?	MWMP mitigation activities are required to result in net benefits to hydrologic/hydraulic conditions such that flood risk to developed properties are not increased and potential for erosion is limited, as verified through regulatory approvals of an HMMP for each mitigation project. Therefore, these impacts would be **less than significant**.	N/A
Land Use		
Issue 1: Would the project result in a conflict with goals, objectives, and recommendations of the community plan in which it is located?	MWMP programmatic mitigation activities are expected to be consistent with the goals and policies of the General Plan and Community Plans, and it would not preclude the attainment of the primary intent of the General Plan or Community Plans, and impacts would be **less than significant**.	**EP-LU-1**
Issue 2: Would the project require a deviation or variance, and the deviation or variance would in turn result in a physical impact on the environment?	MWMP programmatic mitigation activities are expected to comply with land use regulations and would not result in a net loss of wetlands and therefore impacts would be **less than significant**.	N/A
Issue 3: Would the project result in a conflict with the provisions of the City's Multiple Species Conservation Program Subarea Plan or other approved local, regional, or state habitat conservation plan?	MWMP programmatic mitigation activities are expected to be consistent with City of San Diego MSCP Subarea Plan, Boundary Line Adjustment requirements, and the Land Development Code Environmentally Sensitive Lands Regulations and impacts would be less than significant **less than significant**.	**EP-LU-1** and **EP-LU-2**

Table 5.3-7
CEQA Analysis of the Impacts of Implementing MWMP Required Compensatory Mitigation

MWMP CEQA Impact Threshold	Impact Analysis	Environmental Protocols and Mitigation Measures
Noise		
Issue 1: Would the project result or create a significant increase in the existing ambient noise levels?	Construction noise from potential MWMP programmatic mitigation activities was not estimated as part of the modeling completed for the MWMP but has the potential to be similar to large facility maintenance projects. Therefore, noise impacts from construction of mitigation site conducted under the MWMP would be **significant** absent mitigation.	**MM-NOI-1**
Issue 2: Would the project result in the exposure of people to noise levels which exceed the City's adopted noise ordinance or are incompatible with Table K-4?	Construction noise from potential MWMP programmatic mitigation activities may exceed the City's Municipal Code Noise Ordinance standard for construction (75 dBA L_{eq} (12-hr)) when mitigation activities would take place in proximity to the nearest noise-sensitive receivers. This is a **significant** noise impact absent mitigation.	**MM-NOI-1**
Issue 3: Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Because construction of mitigation sites would utilize similar equipment as MWMP maintenance and likely be further away from residences than maintenance sites, vibration levels resulting from heavy construction equipment are not expected to result in excessive groundborne vibration levels, and impacts would be **less than significant.**	N/A
Paleontological Resources		
Issue 1: Would the project require over 1,000 cubic yards of excavation in a high resource potential geologic deposit/formation/rock unit, or over 2,000 cubic yards of excavation in a moderate resource potential geologic deposit/formation/rock unit?	MWMP programmatic mitigation activities may include grading that exceeds the significance thresholds for paleontological resources; however, with implementation of EP-PAL-1, impacts would be **less than significant**.	**EP-PAL-1**
Solid Waste		
Issue 1: Would the proposed project have an effect upon, or result in a need for, new or altered solid waste facilities?	MWMP programmatic mitigation activities would contribute to landfill capacity; however, they would not substantially increase the amount of solid waste that is currently handled and transferred to the Miramar Landfill. Impacts would be **less than significant**.	N/A
Issue 2: Would the project comply with federal, state, and local statutes and regulations related to solid waste?	Due to the nature of the solid waste handled during implementation of programmatic mitigation activities, recycling and reusing the materials is not always appropriate or feasible, and the amount that will be diverted from disposal is unknown. Given the proposed MWMP may not substantially change the amount of solid waste currently handled and transferred to the Miramar Landfill, and that TSW has a current diversion rate far below the required amount of 50%, it is anticipated that programmatic mitigation activities would also not comply with the 50% waste diversion goal set by the TSW *Waste Diversion Plan*. Therefore, even with implementation of EP-SW-1 through EP-SW-8, impacts would be **potentially significant**.	**EP-SW-1** through **EP-SW-8**
Water Quality		
Issue 1: Would the project adhere to the City's Stormwater Standards Manual (City of San Diego 2018)?	MWMP programmatic mitigation activities are required to be constructed consistent with the City's Storm Water Standards Manual, which outline the BMPs and pollution prevention measures that would be implemented. Therefore, these impacts would be **less than significant**.	**EP-WQ-1**
Issue 2: Would the project otherwise substantially degrade water quality?	MWMP mitigation activities are required to result in net benefits to wetland functions, including water quality, as verified through regulatory approvals of an HMMP for each mitigation project. Therefore, these impacts would be **less than significant**.	N/A

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

5.3.8 SIGNIFICANCE OF IMPACT

Direct impacts to sensitive vegetation communities (i.e., Tier I–III and Wetlands) and jurisdictional aquatic resources, including resources that may support sensitive species would be **potentially significant,** absent mitigation due to the potential loss of wetlands (**BIO-1a)** and Tier I-III uplands **(BIO-1b)** located within proposed MWMP maintenance and repair impact areas in excess of significance thresholds listed in Table 5.3-3. In the case of previously permitted maintenance areas, verification of prior approvals and implementation/purchase of any required compensatory mitigation provided under those approvals, no additional mitigation would be required (i.e., one-time mitigation for permanent impacts of maintenance) (**EP-BIO-1**). In the case of maintenance of unvegetated concrete-lined channels, while considered significant due to supporting City-defined wetlands, does not require compensatory mitigation because maintenance would not result in a loss of function or wetland area. Although not expected, it is possible that the channel maintenance could also result in unintended impacts to sensitive vegetation communities if the limits of work are inadvertently exceeded. These impacts would also be **potentially significant**, absent mitigation (**BIO-2).**

Direct impacts from proposed MWMP maintenance and repair activities to certain sensitive plant species may not be adequately mitigated through habitat-based mitigation. Impacts to these MSCP Narrow Endemic Covered Species or non-MSCP Covered Species that are state-listed or federally listed and/or have a California Rare Plant Rank of 1B.1 or 1B.2 would be **potentially significant**, absent species-specific mitigation (**BIO-3**).

Direct impacts from proposed MWMP maintenance and repair activities to active nests (**BIO-4**), habitat occupied by listed species **(BIO-5)**, or active raptor nests **(BIO-6)**, would be **potentially significant**, absent mitigation due the potential for disturbance to adversely affect avian breeding, habitat occupied by least Bell's vireo, Ridgway's rail, California least tern, and/or southwestern willow flycatcher, or active raptor nests.

Short-term indirect impacts, including short-term edge effects, would be avoided and minimized through implementation of EPs (see Section 5.3.5), including biological monitoring measures (**EP-BIO-3a, 3b**, and **3c)**, methods for successful removal of invasive species (**EP-BIO-4)**, implementation sensitive plant species protection **(EP-BIO-5)**, proper treatment of all woody debris removed from facilities to avoid the spread of shot-hole borer (**EP-BIO-6)**, consistency with the MSCP/MHPA Land Use Adjacency Guidelines (**EP-LU-1**), and implementation of WPCP measures **(EP-WQ-1),** which together would reduce short-term indirect impacts to sensitive vegetation communities, sensitive plants, and most sensitive wildlife to **less than significant**.

If maintenance is conducted adjacent to portions of the MHPA occupied by California gnatcatcher during the breeding season, potential noise impacts during proposed MWMP activities would be **potentially significant**, absent mitigation **(BIO-7)**.

Long-term indirect impacts associated with the spread of invasive plant or pest species and other adverse edge effects would be reduced to **less than significant** through implementation of **(EP-BIO-4**, **EP-BIO-6, EP-LU-1**, and **EP-WQ-1).** However, long-term indirect impacts to sensitive biological resources, including adverse edge effects, related to alteration of drainage patterns or reductions in water quality conditions as a result of routine, repeated maintenance and removal of vegetation and sediment, would be **potentially significant**, absent mitigation (**BIO-8**).

No long-term interference of fish and wildlife movement would result from implementation of the MWMP, based on the limitation of proposed activities to the maintenance and repair of existing structures and implementation of **EP-LU-1**. Short-term impacts to fish and wildlife movement would be **less than significant** due to the short-term nature of maintenance and repair activities, urbanized location of most storm water facilities, and availability of adjacent habitat areas for wildlife movement during maintenance and repair activities.

Based on consistency with the City's MSCP Subarea Plan and implementation of **EP-LU-1**, the MWMP would not conflict with the MSCP, other regional conservation plans, or other local policies and ordinances and therefore impacts are **less than significant**.

5.3.9 MITIGATION MEASURES

As stated in 5.3.5, 5.3.6, and 5.3.8, certain facilities have been previously permitted. **EP-BIO-1** offers the opportunity to demonstrate, as part of the FMP submitted as an SCR prior to maintenance, that prior approvals were granted for maintenance of a facility. If prior approvals were granted, no new mitigation shall be required, provided that mitigation required under the prior approval is being implemented or has been satisfied. **MM-BIO-1a** and **MM-BIO-1b** are therefore intended to apply to newly proposed facilities only. All other mitigation measures shall apply to all facilities.

MM-BIO-1a: **Compensatory Wetlands Mitigation.** Significant impacts to sensitive wetlands, including jurisdictional aquatic resources, resulting from maintenance that require mitigation based on thresholds summarized in Table 5.3-3, shall be mitigated through (A) implementation of habitat creation, restoration, enhancement, and/or preservation through an approved Habitat Mitigation and Monitoring Plan (HMMP) or (B) acquisition of approved mitigation credits, including City of San Diego (City) Advanced Permittee Responsible Mitigation (APRM) sites. Both A and B are equally suitable and equivalent mitigation.

Wetland mitigation required as part of any federal (404) or state (1601/1603) wetland permit shall supersede and shall not be in addition to any mitigation identified in the California Environmental Quality Act (CEQA) document for those wetland areas covered under any federal or state wetland permit. Wetland habitat outside the jurisdiction of the federal and state permits shall be mitigated in accordance with the CEQA document for those wetland areas covered under any federal or state wetland permit. Wetland habitat outside the jurisdiction of the federal and state permits shall be mitigated in accordance with the CEQA document.

A) An HMMP shall be prepared in accordance with the City of San Diego Biology Guidelines (SDBG). Mitigation shall conform with the SDBG including definitions for creation, restoration, enhancement, and acquisition identified under Environmentally Sensitive Lands (ESL), including satisfaction of no-net-loss by including at least a 1:1 ratio of creation or restoration for all areas of significant impacts to wetlands (Table 5.3-8).

   When proposed mitigation involves habitat enhancement, restoration, or creation, the HMMP shall include the following information:

   - Conceptual planting plan including planting zones, grading, and irrigation;
   - Seed mix/planting palette;
   - Planting specifications;
   - Monitoring program including success criteria; and
   - Long-term maintenance and preservation plan.

   For mitigation which involves habitat acquisition, the HMMP shall include the following:

   - Location of proposed acquisition;
   - Description of the biological resources to be acquired including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact; and
   - Documentation that the mitigation area would be adequately preserved and maintained in perpetuity.

B) Allocation of mitigation site credits, including City APRM shall include the following:

   - Location of approved mitigation site;
   - Description of the mitigation credits to be acquired including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact;

- Documentation the credits are associated with a mitigation bank or APRM site that has been approved by the appropriate Resource Agencies; and
- Documentation in the form of a current mitigation credit ledger.

Table 5.3-8
Wetland Mitigation Ratios

HABITAT TYPE	MITIGATION RATIO
Coastal Wetlands:	
- Salt marsh	4:1
- Salt panne	4:1
Riparian Habitats:	
- Oak riparian forest	3:1
- Riparian forest or woodland	3:1
- Riparian scrub	2:1
- Riparian scrub in the Coastal Overlay Zone	3:1
Freshwater Marsh	2:1
Freshwater Marsh in the Coastal Overlay Zone	4:1
Natural Flood Channel	2:1
Disturbed Wetland	2:1
Vernal Pools	2:1 to 4:1
Marine Habitats	2:1
Eelgrass Beds	2:1

Notes:
Any impacts to wetlands must be mitigated "in-kind" and achieve a "no-net loss" of wetland function and values except as provided for in Section 3B (Economic Viability Option).

* Mitigation for vernal pools impacts consistent with the Vernal Pool Habitat Conservation Plan shall be 2:1 for listed fairy shrimp or when no listed plant species are present, 3:1 for San Diego button celery, and 4:1 when listed species with very limited distributions (e.g., *spreading navarretia, San Diego mesa mint, California Orcutt grass, and Otay mesa mint*) are present. While the ratio is applied to the basin area, the mitigation site must include appropriate watershed to support restored and/or enhanced basins.

MM-BIO-1b: **Compensatory Uplands Mitigation.** Cumulative impacts to sensitive uplands under the *Municipal Waterways Maintenance Plan* (MWMP)are generally limited in size (i.e., less than the 5- to 10- acre threshold established in the City's Biological Guidelines) and, therefore, shall be mitigated in accordance with the applicable SDBG mitigation ratios (Table 5.3-9) through payment into the City's Habitat Acquisition Fund (Fund #10571), as established by City Council Resolution R-275129, adopted on February 12, 1990, or dedication of credits from the City's Cornerstone Lands Marron Valley Mitigation Bank.

Table 5.3-9
Upland Mitigation Ratios[1]

TIER	HABITAT TYPE	MITIGATION RATIOS
TIER 1[2] (rare uplands)	Southern Foredunes Torrey Pines Forest Coastal Bluff Scrub Maritime Succulent Scrub Maritime Chaparral Scrub Oak Chaparral Native Grassland Oak Woodlands	Location of Preservation Location of Impact: Inside* — Inside 2:1, Outside 3:1 Location of Impact: Outside — Inside 1:1, Outside 2:1
TIER II[3] (uncommon uplands)	Coastal Sage Scrub (CSS) CSS/Chaparral	Location of Preservation Location of Impact: Inside* — Inside 1:1, Outside 2:1 Location of Impact: Outside — Inside 1:1, Outside 1.5:1
TIER IIIA[3] (common uplands)	Mixed Chaparral Chamise Chaparral	Location of Preservation Location of Impact: Inside* — Inside 1:1, Outside 1.5:1 Location of Impact: Outside — Inside 0.5:1, Outside 1:1
TIER IIIB[3] (common uplands)	Non-Native Grasslands[4]	Location of Preservation Location of Impact: Inside* — Inside 1:1, Outside 1.5:1 Location of Impact: Outside — Inside 0.5:1, Outside 1:1
TIER IV (other uplands)	Disturbed Land Agriculture Eucalyptus Woodland Ornamental Plantings	Location of Preservation Location of Impact: Inside* — Inside 0:1, Outside 0:1 Location of Impact: Outside — Inside 0:1, Outside 0:1

Notes:

1. No mitigation would be required for impacts within the base development area (25%) occurring inside the Multi-Habitat Planning Area (MHPA). Mitigation for any impacts from development in excess of the 25% base

development area for community plan public facilities or for projects processed through the deviation process would be required at the indicated ratios.

2. For all Tier I impacts, the mitigation could (1) occur within the MHPA portion of Tier I (in Tier) or (2) occur outside of the MHPA within the affected habitat type (in-kind).
3. For impacts to Tier II, III A, and III B habitats, the mitigation could (1) occur within the MHPA portion of Tiers I – III (out-of-kind) or (2) occur outside of the MHPA within the affected habitat type (in-kind).
4. Mitigation for impacts to occupied burrowing owl habitat (at the subarea plan specified ratio) must be through the conservation of occupied burrowing owl habitat or conservation of lands appropriate for restoration, management, and enhancement of burrowing owl nesting and foraging requirements.

MM-BIO-2 **Unintended Impact Mitigation.** Should any impacts occur outside of the authorized impact limits, they would be considered permanent and mitigated by either (1) providing mitigation in accordance with the applicable SDBG mitigation ratios or (2) installing an on-site habitat revegetation and erosion control treatments within any unintentional disturbance areas in native habitat in accordance with the SDBG and the Landscape Standards in the City's Land Development Manual. Habitat revegetation shall feature native species that are typical of the area, and erosion control features shall include silt fence and straw fiber rolls, where appropriate (e.g., in areas where sheet flow during rain events may cause erosion). The revegetation areas shall be monitored and maintained for a minimum of 25 months to ensure adequate establishment and sustainability of the plantings/seedlings to reduce the risk of erosion and/or non-native, invasive plant species establishment, in accordance with the Landscape Standards in the City's Land Development Manual.

MM-BIO-3: **Species-Specific Sensitive Plant Mitigation.** Focused surveys shall be conducted to determine presence/absence for Multiple Species Conservation Program (MSCP) Narrow Endemic plant species, non-MSCP covered federally and/or state listed plant species, or non-MSCP covered California Rare Plant Rank 1B.1 or 1B.2 species (see Table 5.3-4a) previously observed or with high or moderate potential to occur within each facility, prior to maintenance. For species that can only be reliably detected during specific blooming periods, focus surveys may need to be conducted during those periods to determine presence/absence. If these species occur within the newly proposed maintenance, access, staging, or stockpiling areas, one of two equally suitable options shall be implemented:

A) Maintenance areas shall be modified to avoid direct impacts to mapped sensitive plant species.

B) Implement an approved Conceptual Restoration Plan or acquisition of mitigation credits that provides one or more of the following measures:

- Impacted plants would be salvaged and relocated;

- Seeds from impacted plants would be collected for use at an off-site location;
- Off-site habitat that supports the species impacted shall be enhanced and/or supplemented with seed collected on site; and/or
- Comparable habitat supporting the species at an off-site location shall be preserved.

Mitigation that involves relocation, enhancement, or transplanting sensitive plants may be conducted in combination with other habitat mitigation (e.g., wetlands HMMP) and shall include the following:

- Conceptual planting plan, including grading and temporary irrigation if necessary to create appropriate habitat conditions to support the species;
- Planting specifications (e.g., seed source, soil suitability, container size);
- Monitoring program including success criteria (e.g., a minimum number of sensitive plant individuals, a minimum percent cover of native species, a maximum percent cover of non-native species); and
- Long-term maintenance and preservation plan (e.g., sensitive plant monitoring, adaptive management actions, site security from trespass or vandalism).

MM-BIO-4: **Avoidance of Nesting Bird Impacts.** To avoid any direct impacts to any species identified as a candidate, sensitive, or special status species in the MSCP or other local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service (USFWS), removal of habitat that supports active nests in the proposed area of disturbance shall occur outside of the breeding season of these species (January 15 through September 15), where feasible.

If removal of habitat in the proposed area of disturbance must occur during the breeding season, the Qualified Biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds within the proposed area of disturbance. The pre-construction survey shall be conducted no more than seven calendar days prior to the start of construction activities (including removal of vegetation).

TSW shall submit the results of the pre-construction survey to City Development Services Department for review and approval prior to initiating any construction activities. If nesting birds are detected, a general survey report or and an avoidance plan, if applicable, in conformance with the SDBG and applicable state and federal law (e.g., appropriate follow-up surveys, monitoring schedules, and construction

barriers/buffers) shall be prepared and include proposed measures to be implemented to ensure that take of birds or eggs is avoided. The report and/or avoidance plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's Mitigation Monitoring Coordination (MMC) Section and Qualified Biologist shall verify and approve that all measures identified in the report and/or avoidance plan are in place prior to and/or during construction.

MM-BIO-5: **Avoidance of Listed Species Take.** Prior to the preconstruction meeting, the Environmental Designee (ED)/MMC shall verify that Multi-Habitat Planning Area (MHPA) boundaries and the requirements regarding the least Bell's vireo, Ridgway's rail, California least tern, and southwestern willow flycatcher as specified below, are shown on the facility maintenance plans.

No clearing, grubbing, grading, or other construction activities shall occur during the least Bell's vireo and Ridgway rail's breeding season (March 15 through September 15), California least tern breeding season (April 15 through September 15), or southwestern willow flycatcher breeding season (May 1 through September 1) until the following requirements have been met to the satisfaction of the ED/MMC:

1. A Qualified Biologist (possessing a valid Endangered Species Act Section 10[a][1][a] Recovery Permit) shall survey those habitat areas within the MHPA that would be subject to construction noise levels exceeding 60 decibels [dB(A)] hourly average for the presence of the least Bell's vireo and southwestern willow flycatcher. Surveys for least Bell's vireo and southwestern willow flycatcher, shall be conducted pursuant to the protocol survey guidelines established by the USFWS within the breeding season prior to the commencement of any construction. If least Bell's vireo or southwestern willow flycatcher are present, then the following conditions must be met:
    a. March 15 through September 15 for least Bell's vireo and May 1 through September 1 for southwestern willow flycatcher, no clearing, grubbing, or grading of occupied habitat shall be permitted. Areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; and
    b. March 15 through September 15 for least Bell's vireo and May 1 through September 1 for southwestern willow flycatcher, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB(A) hourly average at the edge of

occupied habitat. An analysis showing that noise generated by construction activities would not exceed 60 dB(A) hourly average at the edge of occupied habitat must be completed by a Qualified Acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the ED/MMC at least 2 weeks prior to the commencement of construction activities. Prior to the commencement of construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; or

c. At least 2 weeks prior to the commencement of construction activities, under the direction of a Qualified Acoustician, attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities would not exceed 60 dB(A) hourly average at the edge of habitat occupied by the least Bell's vireo, and/or southwestern willow flycatcher. Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring shall be conducted at the edge of the occupied habitat area to ensure that levels do not exceed 60 dB(A) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the Qualified Acoustician or Biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (September 16). Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the ED/MMC, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

2. If least Bell's vireo and/or southwestern willow flycatcher are not detected during the protocol survey, the Qualified Biologist shall submit substantial evidence to the ED/MMC and applicable resource agencies that demonstrates whether or not mitigation measures such as noise walls are necessary from March 15 through

September 15 for least Bell's vireo, and/or May 1 through September 1 for southwestern willow flycatcher, adherence to the following is required:

a. If this evidence indicates that the potential is high for least Bell's vireo and/or southwestern willow flycatcher to be present based on historical records or site conditions, then Condition 1(a) shall be adhered to as specified above.

If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.

3. If work is proposed within a facility segment where Ridgway's rail has been identified to have a moderate or high potential to occur (Appendix E to Appendix D), then an agency-approved biologist will perform the following duties prior to the start of maintenance:

   a. A minimum of three focused pre-construction surveys on separate days, to determine the presence of Ridgway's rails in the facility project impact area outside the rail breeding season. Surveys will begin a maximum of 7 days prior to performing project construction and one survey will be conducted the day immediately prior to performing project construction. Immediately after the facility maintenance area is surveyed by a biologist, a 3- to 5-foot-tall exclusionary fence with 2-inch mesh openings shall be installed at the upstream and downstream limits of the facility to discourage entry of Ridgway's rails into the construction area and to ensure that impact limits are not exceeded;

   b. Before each day of maintenance begins, a Qualified Biologist shall survey the maintenance area to determine if Ridgway's rails have entered the facility impact area. If any rails are found within this area, the biologist will direct construction personnel to begin in an area away from the rails;

   c. The biologist will walk ahead of maintenance equipment to flush birds toward areas of the facility that will be avoided. The biologist will also record the number and location of any Ridgway's rails disturbed by project construction.

MM-BIO-6: **Avoidance of Raptor Breeding Impacts.** If maintenance is planned to occur during the raptor breeding season (January 15 through August 31), a pre-maintenance survey for active raptor nests shall be conducted in areas supporting suitable habitat.

If active raptor nests are found, maintenance shall not occur within:

- 300 feet of a Cooper's hawk nest,

- 900 feet of a northern harrier's nest, or
- 300 feet of any other raptor's nest until the qualified biologist determines the nesting cycle is complete (i.e., when fledglings become independent).

If removal of any eucalyptus trees or other trees used by raptors for nesting within a maintenance area is proposed during the raptor breeding season (January 15 through August 31), a qualified biologist shall ensure that no raptors are nesting in such trees.

If maintenance occurs during the raptor breeding season, a pre-maintenance survey shall be conducted and no maintenance shall occur within 300 feet of any nesting site of Cooper's hawk or other nesting raptor until the young fledge. Should the biologist determine that raptors are nesting, the trees shall not be removed until after the breeding season.

In addition, if removal of grassland or other habitat appropriate for nesting by northern harriers, a qualified biologist shall ensure that no harriers are nesting in such areas. If maintenance occurs during the raptor breeding season, a pre-maintenance survey shall be conducted and no maintenance shall occur within 900 feet of any nesting site of northern harrier until the young fledge.

Noise and other potential disturbance to active raptor nests from maintenance activities shall be minimized in accordance with **MM-BIO-4**.

MM-BIO-7: **Avoidance of California Gnatcatcher Breeding Impacts in MHPA.** Prior to the preconstruction meeting, the ED/MMC shall verify that the MHPA boundaries, and the requirements regarding the coastal California gnatcatcher, as specified below, are shown on the facility maintenance plans.

No clearing, grubbing, grading, or other construction activities shall occur during the coastal California gnatcatcher breeding season (March 1 through August 15 on MHPA lands), until the following requirements have been met to the satisfaction of the ED/MMC:

1. A Qualified Biologist (possessing a valid Endangered Species Act Section 10[a][1][a] Recovery Permit) shall survey those habitat areas within the MHPA that would be subject to construction noise levels exceeding 60 decibels [dB(A)] hourly average for the presence of the coastal California gnatcatcher. Surveys for coastal California gnatcatcher shall be conducted pursuant to the protocol survey guidelines established by USFWS within the breeding season prior to the

commencement of any construction. If coastal California gnatcatchers are present, then the following conditions must be met:

a. March 1 through August 15 on MHPA lands , no clearing, grubbing, or grading of occupied coastal California gnatcatcher habitat shall be permitted. Areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; and

b. March 1 through August 15 on MHPA lands, no construction activities shall occur within any portion of the site where construction activities would result in noise levels exceeding 60 dB(A) hourly average at the edge of occupied coastal California gnatcatcher habitat. An analysis showing that noise generated by construction activities would not exceed 60 dB(A) hourly average at the edge of occupied habitat must be completed by a Qualified Acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the ED/MMC at least 2 weeks prior to the commencement of construction activities. Prior to the commencement of construction activities during the breeding season, areas restricted from such activities shall be staked or fenced under the supervision of a Qualified Biologist; or

c. At least 2 weeks prior to the commencement of construction activities, under the direction of a Qualified Acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities would not exceed 60 dB(A) hourly average at the edge of habitat occupied by the coastal California gnatcatcher. Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the Qualified Acoustician or Biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (August 16). Construction noise monitoring shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the ED/MMC, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already

exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

2. If coastal California gnatcatchers are not detected during the protocol survey, the Qualified Biologist shall submit substantial evidence to the ED/MMC and applicable resource agencies which demonstrates whether or not mitigation measures such as noise walls are necessary from March 1 through August 15 on MHPA lands as follows:

   a. If this evidence indicates that the potential is high for coastal California gnatcatcher to be present based on historical records or site conditions, then Condition 1(a) shall be adhered to as specified above.

   b. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.

5.3.10 SIGNIFICANCE AFTER MITIGATION

Regarding Issues 1, 2 and 3, with implementation of Mitigation Measures **MM-BIO-1a, MM-BIO-1b, MM-BIO-2 MM-BIO-3, MM-BIO-4, MM-BIO-5, MM-BIO-6,** and **MM-BIO-7** all direct and most indirect impacts to sensitive species, including impacts to habitats supporting or potentially supporting sensitive species, would be reduced to **less than significant** through the replacement of habitat loss due to maintenance and repair activities, restoration for sensitive plant impacts, and avoidance of loss or disturbance of active nests or habitat occupied by listed species**.**

Long-term indirect impacts to sensitive biological resources, include adverse edge effects (Issue 1 and 6), related to alteration of drainage patterns or reductions in water quality conditions as a routine, repeated maintenance and removal of vegetation and sediment are addressed in more detail in Section 5.12, Water Quality, but would be reduced through implementation of **MM-BIO-1a** and **MM-WQ-1.** However, these offsetting water quality benefit features are based on the best available data, which at this time cannot precisely calculate water quality conditions prior to and after maintenance and mitigation due to an extensive set of both site-specific and independent conditions and variables that vary in space and time. Therefore, potential long-term indirect impacts related to potentially reduced water quality conditions would remain **significant and unavoidable** following implementation of **MM-BIO-1a** and **MM-WQ-1.**

Regarding Issues 4 and 5, impacts would be **less than significant** and do not require mitigation**.**

Regarding Issue 7, based on compliance with existing regulations incorporated into the MWMP, impacts related to compliance with ESL would be **less than significant** and does not require mitigation**.**

5.4 GREENHOUSE GAS EMISSIONS

5.4.1 INTRODUCTION

This section describes the existing greenhouse gas (GHG) emissions setting of the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP); identifies the applicable regulatory framework; evaluates potential impacts associated with GHG emissions that would result from the proposed MWMP; identifies mitigation measures, if necessary, to reduce the level of impact associated with implementation of the proposed MWMP; and identifies the level of significance after any mitigation. The following information is based on the *Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Municipal Waterways Maintenance Plan, City of San Diego, California* prepared by Dudek, dated November 2019 (provided as Appendix C to this Environmental Impact Report (EIR)).

5.4.2 Existing Conditions

Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017a).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely

likely that human activities have been the dominant cause of that warming since the mid-twentieth century and is the most significant driver of observed climate change (EPA 2017a; IPCC 2013). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013).

Contributions to Greenhouse Gas Emissions

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code Section 38505(g), for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). (See also CEQA Guidelines Section 15364.5.) Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.[1]

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are from the combustion of fuels, such as coal, oil, natural gas, and wood, and from changes in land use.

Methane. CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create

[1] The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (IPCC 1995), IPCC Fourth Assessment Report (IPCC 2007), CARB's "Glossary of Terms Used in GHG Inventories" (CARB 2015a), and EPA's "Glossary of Climate Change Terms" (EPA 2016).

N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (such as in rockets, racecars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone-depleting substances (e.g., chlorofluorocarbon (CFCs), hydrochlorofluorocarbons (HCFCs), and halons). The most prevalent fluorinated gases include the following:

- ***Hydrofluorocarbons:*** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- ***Perfluorocarbons:*** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the ozone depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- ***Sulfur Hexafluoride:*** SF_6 is a colorless gas soluble in alcohol and ether, and is slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- ***Nitrogen Trifluoride:*** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete

combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential. Diesel particulate matter emissions are a major source of black carbon and are also toxic air contaminants (TACs) that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from the California Air Resources Board's (CARB's) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2015b).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric ozone (O_3), which is created by photochemical reactions involving gases from both from natural sources and from human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Sources of Greenhouse Gas Emissions

Per the U.S. Environmental Protection Agency's (EPA) *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2016* (EPA 2018), total U.S. GHG emissions were approximately 6,511.3 million metric tons (MMT) carbon dioxide equivalent (CO_2e) in 2016. The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 81.6% of total GHG emissions (5,310.9 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 93.5% of CO_2 emissions in 2016 (4,966.0 MMT CO_2e). Relative to 1990, gross U.S. GHG emissions in 2016 were higher by 2.4%, down from a high of 15.7% above 1990 levels in 2007. GHG emissions decreased from 2015 to 2016 by 1.9% (126.8 MMT CO_2e), and net emissions in 2016 were 11.1% below 2005 levels (EPA 2018). According to California's 2000–2016 GHG Emissions Inventory (2018 edition), California emitted 429 MMT CO_2e in 2016,

including emissions resulting from out-of-state electrical generation (CARB 2017b). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high-global-warming-potential substances, and recycling and waste. The California GHG emissions source categories and their relative contributions in 2016 are presented in Table 5.4-1, Greenhouse Gas Emissions Sources in California.

Table 5.4-1
Greenhouse Gas Emissions Sources in California

Source Category	Annual Greenhouse Gas Emissions (MMT CO_2e)	Percent of Total*
Transportation	176.1	41%
Industrial	98.8	23%
Electricity (in state)	42.9	10%
Electricity (imports)	25.8	6%
Agriculture	34.4	8%
Residential	30.1	7%
Commercial	21.5	5%
Total	**429.4**	**100%**

Source: CARB 2017b
MMT CO_2e = million metric tons of carbon dioxide equivalent
* Column may not add due to rounding.

From 2000 to 2016, per-capita GHG emissions in California dropped from a peak of 14.0 metric tons (MT) per person in 2001, to 10.8 MT per person in 2016, representing a 23% decrease. In addition, total GHG emissions in 2015 were approximately 12 MMT CO_2e less than 2015 emissions (CARB 2017b).

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 *Intergovernmental Panel on Climate Change Synthesis Report* (IPCC 2014) indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, and rising sea levels (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply (CCCC 2006). The primary effect of global climate change has been a 0.2°C rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide

between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming could be taking place.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights. Shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year. Sea levels have risen, and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada (CCCC 2012). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1°F to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California, compared to the coast. Heat waves will be more frequent, hotter, and longer. There will be fewer extremely cold nights (CCCC 2012). A decline of Sierra Nevada snowpack, which accounts for approximately half of the surface water storage in California, by 30% to as much as 90% is predicted over the next 100 years (CAT 2006).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by the mid-to-late twenty-first century in central, and most notably, Southern California. By the late century, all projections show drying, and half of them suggest 30-year average precipitation will decline by more than 10% below the historical average (CCCC 2012).

A summary of current and future climate change impacts to resource areas in California, as discussed in the *Safeguarding California: Reducing Climate Risk, an Update to the 2009 California Climate Adaptation Strategy* (CNRA 2014), is provided below.

Agriculture. Some of the specific challenges faced by the agricultural sector and farmers include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought, to destructive storm events; significant shifts in water availability and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production.

Biodiversity and Habitat. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift and novel combinations of species; pathogens, parasites and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss has occurs).

Energy. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events, sea-level rise, decreased capacity of transmission lines, decreased efficiency of thermal power plants, and increases in electricity demand.

Forestry. The most significant climate change related risk to forests is accelerated risk of wildfire, more frequent and severe droughts, and disease. Droughts have resulted in more large-scale mortalities and combined with increasing temperatures have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts and vegetation conversions.

Ocean and Coastal Ecosystems and Resources. Sea-level rise, changing ocean conditions and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea-level rise, in addition to more frequent and severe coastal storms and erosion, is threatening vital infrastructure such as roads, bridges, power plants, ports, airports, gasoline pipes, and emergency facilities, as well as negatively impacting coastal recreational assets such as beaches and tidal wetlands.

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first Century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity and duration of extreme heat and heat waves are likely to increase the risk of mortality due to heat related illness as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness such as asthma and allergies.

Transportation. While the transportation industry is a source of GHG emissions it is also vulnerable to climate change risks. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure, which can impair movement of peoples and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety.

Water. Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the winter time. Increased risk of flooding has a variety of public health concerns including water quality, public safety, property damage, displacement and post-disaster mental health problems. Prolonged and intensified droughts can also negatively groundwater reserves and result in increased overdraft and subsidence. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality.

In March 2016, the CNRA released *Safeguarding California: Implementation Action Plans*, a document that shows how California is acting to convert the recommendations contained in the 2014 Safeguarding California plan into action (CNRA 2016). Additionally, in May 2017, CNRA released the draft *Safeguarding California Plan: 2017 Update*, which is a survey of current programmatic responses for climate change and contains recommendations for further actions (CNRA 2017).

The CNRA released *Safeguarding California Plan: 2018 Update* in January 2018, which provides a roadmap for state agencies to protect communities, infrastructure, services, and the natural environment from climate change impacts. The 2018 *Safeguarding California Plan* includes 69 recommendations across 11 sectors and more than 1,000 ongoing actions and next steps developed by scientific and policy experts across 38 state agencies (CNRA 2018). As with previous state adaptation plans, the 2018 Update addresses the following: acceleration of warming across the state, more intense and frequent heat waves, greater riverine flows, accelerating sea-level rise, more intense and frequent drought, more severe and frequent wildfires, more severe storms and extreme weather events, shrinking snowpack and less overall precipitation, and ocean acidification, hypoxia, and warming.

5.4.3 Regulatory Setting

Federal

Massachusetts v. EPA

On April 2, 2007, in *Massachusetts v. EPA*, the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA administrator is required to follow the language of Section 202(a) of the Clean Air Act (CAA). On December 7, 2009, the administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the CAA:

1. The administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the "endangerment finding."
2. The administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the CAA.

Federal Vehicle Standards

In response to the U.S. Supreme Court ruling, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the National Highway Traffic Safety Administration (NHTSA) issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis,

which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and NHTSA intends to set standards for model years 2022–2025 in a future rulemaking. On January 12, 2017, the EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks (EPA 2017b).

In addition to the regulations applicable to cars and light-duty trucks, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

Energy Independence and Security Act

On December 19, 2007, President George W. Bush signed the Energy Independence and Security Act of 2007. Among other key measures, the act would do the following, which would aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon (mpg) for the combined fleet of cars and light trucks by model year 2020 and direct NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

State

State Climate Change Targets

The state has taken a number of actions to address climate change. These include EOs, legislation, and CARB plans and requirements. These are summarized herein.

Executive Order S-3-05

O S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the state agencies for implementing the EO and for reporting on progress toward the targets. This EO established the following targets:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80% below 1990 levels

EO S-3-05 also directed the California Environmental Protection Agency to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issued reports from 2006 to 2010 (CAT 2016).

Assembly Bill 32

In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the state's long-range climate objectives.

Senate Bill 32 and Assembly Bill 197

SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and, requires CARB to identify

specific information for GHG emissions reduction measures when updating the *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan).

CARB's 2007 Statewide Limit

In 2007, in accordance with California Health and Safety Code, Section 38550, CARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_2e).

CARB's Climate Change Scoping Plan

One specific requirement of AB 32 is for CARB to prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code, Section 38561(a)), and to update the scoping plan at least once every 5 years. In 2008, CARB approved the first scoping plan. The *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan) included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33%
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS) (17 CCR Section 95480 et seq.)
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations.

In 2014, CARB approved the first update to the Scoping Plan. The *First Update to the Climate Change Scoping Plan: Building on the Framework* (First Update*)* defined the state's GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EOs S-3-05 and B-16-2012. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050 including: energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and, the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the state's 1990 emissions level, using more recent global warming potentials identified by the Intergovernmental Panel on Climate Change, from 427 MMT CO_2e to 431 MMT CO_2e (CARB 2014).

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. The Governor called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In the summer of 2016, the Legislature affirmed the importance of addressing climate change through passage of SB 32 (Pavley, Chapter 249, Statutes of 2016).

In January 2017, CARB released the *2017 Climate Change Scoping Plan Update (2030 Scoping Plan)* for public review and comment (CARB 2017b). The 2030 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond. The strategies' "known commitments" include implementing renewable energy and energy efficiency (including the mandates of SB 350), increased stringency of the Low Carbon Fuel Standard, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increased stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, it recommends continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%.

For local governments, the 2030 Scoping Plan replaced the initial Scoping Plan's 15% reduction goal with a recommendation to aim for a community-wide goal of no more than 6 MT CO_2e per capita by 2030 and no more than 2 MT CO_2e per capita by 2050, which are consistent with the state's long-term goals. These goals are also consistent with the Under 2 Memorandum of Understanding (Under 2 2016) and the Paris Agreement, which are developed around the scientifically based levels necessary to limit global warming below 2 degrees Celsius (°C). The 2030 Scoping Plan recognized the benefits of local government GHG planning (e.g., through CAPs) and provide more information regarding tools CARB is working on to support those efforts. It also recognizes the CEQA streamlining provisions for project-level review where there is a legally adequate CAP.[2] The 2030 Scoping Plan was adopted on December 14, 2017.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, and the EOs, and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. As discussed in several cases, a given project need not be in perfect conformity with every planning policy or goal to be consistent. A project would be consistent if it will further the objectives and not obstruct their attainment.

CARB's Regulations for the Mandatory Reporting of Greenhouse Gas Emissions

In general, entities subject to CARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (17 CCR 95100–95157) that emit more than 10,000 MT CO_2e per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that emit more than the 25,000 MT CO_2e per year threshold are required to have their GHG emission report verified by a CARB-accredited third-party verified.

Executive Order B-18-12

EO B-18-12 (April 2012) directed state agencies, departments, and other entities under the governor's executive authority to take action to reduce entity-wide GHG emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline. EO B-18-12 also established goals for existing state buildings for reducing grid-based energy purchases and water use.

[2] Pursuant to CEQA Guidelines Section 15183.5, lead agencies may analyze and mitigate the significant effects of GHG emissions at a programmatic level, such as in a general plan, a long-range development plan, or a separate plan to reduce GHG emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review.

Executive Order B-30-15

EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update the Scoping Plan to express the 2030 target in terms of MMT CO_2e. The EO also called for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

Senate Bill 605 and Senate Bill 1383

SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of SLCPs in the state; and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for methane and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its *Short-Lived Climate Pollutant Reduction Strategy* (*SLCP Reduction Strategy*) in March 2017. The *SLCP Reduction Strategy* establishes a framework for the statewide reduction of emissions of black carbon, methane, and fluorinated gases.

Mobile Sources

Assembly Bill 1493

AB 1493 (Pavley) (July 2002) was enacted in a response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

Heavy-Duty Diesel

CARB adopted the final Heavy Duty Truck and Bus Regulation, Title 13, Division 3, Chapter 1, Section 2025, on December 31, 2014 to reduce PM and NO_x emissions from heavy-duty diesel vehicles. The rule requires PM filters be applied to newer heavier trucks and buses by January 1, 2012, with older

vehicles required to comply by January 1, 2015. The rule will require nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR 2485).

Executive Order S-1-07

EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining LCFS for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (17 CCR 95480 et seq.). The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered.

Senate Bill 375

SB 375 (Steinberg) (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035 and to update those targets every 8 years. SB 375 requires the state's 18 regional metropolitan planning organizations to prepare a Sustainable Communities Strategy (SCS) as part of their *Regional Transportation Plan* (RTP) that will achieve the GHG reduction targets set by CARB. If a metropolitan planning organization is unable to devise an SCS to achieve the GHG reduction target, the metropolitan planning organization must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code, Section 65080(b)(2)(K), an SCS does not (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

In 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets for SANDAG are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2035.

SANDAG completed and adopted its *2050 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) in October 2011. In November 2011, CARB, by resolution, accepted SANDAG's

GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

After SANDAG's 2050 RTP/SCS was adopted, a lawsuit was filed by the Cleveland National Forest Foundation and others. The case was resolved and decided upon in July 2017 by the California Supreme Court; the court found that SANDAG's EIR did not have to use EO S-3-05's 2050 goal of an 80% reduction in GHG emissions from 1990 levels as a significance threshold because the EIR sufficiently informed the public of the potential impacts.

Although the EIR for SANDAG's 2050 RTP/SCS was pending before the California Supreme Court, in 2015, SANDAG adopted the next iteration of its RTP/SCS in accordance with statutorily mandated timelines and no subsequent litigation challenge was filed. More specifically, in October 2015, SANDAG adopted *San Diego Forward: The Regional Plan*. Like the 2050 RTP/SCS, this planning document meets CARB's 2020 and 2035 reduction targets for the region (SANDAG 2015). In December 2015, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program

The Advanced Clean Cars program (January 2012) is a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The ZEV program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles in the 2018 to 2025 model years.

Executive Order B-16-12

EO B-16-12 (March 2012) required that state entities under the governor's direction and control, support and facilitate the rapid commercialization of ZEVs. It ordered CARB, CEC, CPUC, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the

transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

Water

Executive Order B-29-15

In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water usage in 2013. The term of the EO extended through February 28, 2016, although many of its directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

Solid Waste

Assembly Bill 939 and Assembly Bill 341

In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code, Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (Chapter 476, Statutes of 2011 (Chesbro)) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops and in August 2015 published a discussion document titled AB 341 Report to the Legislature, which identifies five priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020, legislative and regulatory recommendations and an evaluation of program effectiveness (CalRecycle 2017).

Other State Actions

Senate Bill 97

SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research (OPR) to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4(a)). The Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)). The Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a Lead Agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009a).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards" (14 CCR 15064.4(a)). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

Executive Order S-13-08

EO S-13-08 (November 2008) was intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. It directed state agencies to take specified actions to assess and plan for such impacts. It directed the CNRA, in cooperation with the California Department of Water Resources, CEC, California's coastal management agencies, and the Ocean Protection Council, to request that the National Academy of Sciences prepare a *Sea-Level Rise Assessment Report* by December 1, 2010. The Ocean Protection Council, California Department of Water Resources, and CEC, in cooperation with other state agencies, were required to conduct a public workshop to gather information relevant to the *Sea-Level Rise Assessment Report*. The Business, Transportation, and Housing Agency was ordered to assess within 90 days of issuance of the EO the vulnerability of the state's transportation systems to sea-level rise. The Governor's Office of Planning and Research and the CNRA are required to provide land use planning guidance related to sea-level rise and other climate change impacts. The EO also required the other state agencies to develop adaptation strategies by June 9, 2009, to respond to the impacts of global climate change that are predicted to occur over the next 50 to 100 years. A discussion draft adaptation strategies report was released in August 2009, and the final *2009 California Climate Adaptation Strategy* report was issued in December 2009 (CNRA 2009b). An update to the 2009 report, *Safeguarding California: Reducing Climate Risk*, was issued in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarized key climate change impacts to the state for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water.

Local

City of San Diego General Plan

The State of California requires cities and counties to prepare and adopt a general plan to set out a long-range vision and comprehensive policy framework for its future. The state also mandates that the plan be updated periodically to ensure relevance and utility. The City's *General Plan 2008* (General Plan) was unanimously adopted by the City Council on March 10, 2008, with additional amendments approved in December 2010, January 2012, and June 2015. The General Plan builds upon many of the goals and strategies of the former 1979 General Plan, in addition to offering new policy direction in the areas of urban form, neighborhood character, historic preservation, public facilities, recreation, conservation, mobility, housing affordability, economic prosperity, and equitable development. It recognizes and explains the critical role of the community planning project as the vehicle to tailor the City of Villages strategy for each neighborhood. It also outlines the plan amendment process, and other implementation strategies, and considers the continued growth of the City beyond the year 2020 (City of San Diego 2015a).

The Conservation Element contains policies to guide the conservation of resources that are fundamental components of San Diego's environment, that help define the City's identity, and that are relied upon for continued economic prosperity. The purpose of this element is to help the City become an international model of sustainable development and conservation, and to provide for the long-term conservation and sustainable management of the rich natural resources that help define the City's identity, contribute to its economy, and improve its quality of life.

The City has also adopted the following General Plan Conservation Element policies (City of San Diego 2015a) related to climate change:

- Policy CE-A.2. Reduce the City's carbon footprint. Develop and adopt new or amended regulations, projects, and incentives as appropriate to implement the goals and policies set forth in the General Plan to:
    - Create sustainable and efficient land use patterns to reduce vehicular trips and preserve open space;
    - Reduce fuel emission levels by encouraging alternative modes of transportation and increasing fuel efficiency;
    - Improve energy efficiency, especially in the transportation sector and buildings and appliances;
    - Reduce the Urban Heat Island effect through sustainable design and building practices, as well as planting trees (consistent with habitat and water conservation policies) for their many environmental benefits, including natural carbon sequestration;
    - Reduce waste by improving management and recycling projects;
    - Plan for water supply and emergency reserves.
- Policy CE-A.8. Reduce construction and demolition waste in accordance with Public Facilities Element, Policy PF-1.2, or by renovating or adding on to existing buildings, rather than constructing new buildings.
- Policy CE-A.9. Reuse building materials, use materials that have recycled content, or use materials that are derived from sustainable or rapidly renewable sources to the extent possible, through factors including:
    - Scheduling time for deconstruction and recycling activities to take place during project demolition and construction phases;
    - Using life cycle costing in decision-making for materials and construction techniques. Life cycle costing analyzes the costs and benefits over the life of a particular product, technology, or system.

- Policy CE-F.3. Continue to use methane as an energy source from inactive and closed landfills.
- Policy CE-I.4. Maintain and promote water conservation and waste diversion projects to conserve energy.
- Policy CE-I.5. Support the installation of photovoltaic panels, and other forms of renewable energy production.
    - Seek funding to incorporate renewable energy alternatives in public buildings.
    - Promote the use and installation of renewable energy alternatives in new and existing development.
- Policy CE-I.10. Use renewable energy sources to generate energy to the extent feasible.

City of San Diego Climate Action Plan

In December 2015, the City adopted its final *Climate Action Plan* (CAP) (City of San Diego 2015b). A Program EIR was prepared for the City's Draft CAP, which was certified in December 2015. With implementation of the CAP, the City aims to reduce emissions 15% below the baseline to approximately 11.1 MMT CO2e by 2020, 40% below the baseline to approximately 7.8 MMT CO2e by 2030, and 50% below the baseline to approximately 6.5 MMT CO2e by 2035. It is anticipated that the City would exceed its reduction target by 1.3 MMT CO2e in 2020, 176,528 MT CO2e in 2030, and 127,135 MT CO2e in 2035 with implementation of the CAP. The CAP relies on significant City and regional actions, continued implementation of federal and state mandates, and five local strategies with associated action steps for target attainment. The City has identified the following five strategies to reduce GHG emissions to achieve the 2020 and 2035 targets:

1. Energy and water efficient buildings;
2. Clean and renewable energy;
3. Bicycling, walking, transit, and land use;
4. Zero waste (gas and waste management); and
5. Climate resiliency.

Implementation of the CAP is divided into three actions:

- Early Actions (Adoption of the CAP – December 31, 2017)
- Mid-Term Actions (January 1, 2018–December 31, 2020)
- Longer-Term Actions (2021–2035)

The CAP meets the requirements set forth in CEQA Guidelines Section 15183.5, whereby a lead agency (e.g., the City of San Diego) may analyze and mitigate the significant effects of GHG emissions at a programmatic level, such as in a general plan, a long-range development plan, or a separate plan to reduce GHG emissions.

In June 2017, the City amended the CAP to include a CAP Consistency Checklist to provide a streamlined review process for the GHG emissions analysis of proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA. The CAP Consistency Checklist is part of the CAP and contains measures that are required to be implemented on a project-by-project basis to ensure that the specified emissions targets identified in the CAP are achieved. Implementation of these measures would ensure that new development is consistent with the CAP's assumptions for relevant CAP strategies toward achieving the identified GHG reduction targets. Projects that are consistent with the CAP, as determined through the use of the CAP Consistency Checklist, may rely on the CAP for the cumulative impacts analysis of GHG emissions. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP.

5.4.4 THRESHOLDS OF SIGNIFICANCE

The City's *California Environmental Quality Act Significance Determination Thresholds* (City of San Diego 2016) and Appendix G of the CEQA Guidelines contain significance guidelines related to GHGs. The following questions are from the City's *Significance Determination Thresholds* and provide guidance to determine potential significance for GHGs:

Issue 1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Issue 2: Would the project conflict with the City's Climate Action Plan or another applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The City's latest update to the *CEQA Significance Determination Thresholds* document in July 2016 added a GHG emissions threshold section. Pursuant to CEQA Guidelines Sections 15183.5(b), 15064(h)(3), and 15130(d), the City may determine that a project's incremental contribution to a cumulative GHG effect is not cumulatively considerable if the project complies with the requirements of a previously adopted GHG emission reduction plan. CEQA Guidelines Section 15183.5(b)(1)(A–F) specifically provides that a GHG emissions reduction plan should:

A. Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;

B. Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;

C. Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;

D. Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;

E. Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and

F. Be adopted in a public process following environmental review.

An environmental document that relies on a GHG emissions reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to that project, and if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project (CEQA Guidelines Section 15183.5(b)(2)).

The method for determining significance depends on whether the action requires plan- or policy-level or project-level environmental analysis. For plan- and policy-level environmental documents, the analysis should follow the Planning Department Climate Action Plan Consistency for Plan- and Policy-Level Documents Memorandum, which provides guidance on significance determination as it relates to all five strategies of the CAP. For project-level environmental documents, significance is determined through the CAP Consistency Checklist.

To evaluate the MWMP's potential to result in a significant GHG emissions impact, both strategies to evaluate the MWMP's potential to conflict with the City's CAP are applied: consistency with the CAP's five strategies and consistency with the CAP Consistency Checklist.

CAP Five Strategies

The CAP includes five GHG reduction strategies: (1) energy and water efficient buildings; (2) clean and renewable energy; (3) bicycling, walking, transit and land use; (4) zero waste; and (5) climate resiliency. Plan-level documents, which do not involve changes in land use designation or require a certificate of occupancy, are analyzed for consistency with the five strategies.

CAP Consistency Checklist

Under the City's CEQA Thresholds, the method for determining significance for project-level environmental documents is through the CAP Consistency Checklist (City of San Diego 2015b). The

CAP Consistency Checklist, adopted July 12, 2016, is used by the City to ensure project-by-project consistency with the underlying assumptions in the CAP and that the City would achieve its emissions reduction targets identified in the CAP. The CAP Consistency Checklist includes a three-step process to determine project consistency (City of San Diego 2015b). Step 1 consists of an evaluation to determine the project's consistency with existing General Plan, Community Plan, and zoning designations for the site. If the project is able to answer "yes" to Step 1 and demonstrate the project would be consistent with existing General Plan, Community Plan, and zoning designations for the site, then the project may proceed to Step 2. If a project is not consistent with Step 1 or Step 3, GHG impacts as identified under CEQA would be considered significant and unavoidable.

Step 2 includes the list of measures each project is required to implement. All projects must implement all feasible Step 2 measures.

5.4.5 APPROACH AND METHODOLOGY

To provide a conservative analysis of activities proposed under the MWMP, representative projects were identified by the City based on input from City engineers and operations staff. For each maintenance activity, a proposed representative segment was selected to represent that category and analyzed to evaluate potential emissions associated with implementation of activities within that maintenance category. The representative project selection is presented in Appendix K. There are a total of 113 facilities analyzed in the EIR, with eight corresponding representative projects. Additionally, within those 113 facilities, 55 would potentially also include concrete repair, with two additional representative projects. Information regarding a typical construction scenario, including anticipated phasing and phase duration, off-road equipment, worker trips, vendor truck trips (including water trucks), and haul truck trips, was generated for each of these representative projects.

These representative projects are intended to represent a high-level intensity scenario associated with MWMP implementation. Construction specifications of each activity would vary depending on the subject site characteristics, maintenance or improvement needs, and type of proposed solution; however, construction requirements for activities within the same category are not expected to differ substantially. Because several of the proposed activities address similar issues, the proposed solutions include similar procedures, many of which are techniques the City has historically used to resolve common issues, including routine activities that do not require advanced planning and design.

GHG emissions associated with representative projects were quantified using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. Project-specific information was assumed in CalEEMod based on information provided by City staff and representative facility maintenance plans (FMPs) when available. Default values provided in CalEEMod were used where detailed project information was not available.

The representative projects are broadly characterized into two main site categories: concrete-lined and earthen-bottom facilities. Both site categories include multiple representative segment FMPs to provide a range of scenarios that could occur over the course of the project life.

Concrete-Lined Facilities

Proposed maintenance activities in concrete-lined facilities are represented by four representative segment FMPs of varying intensity: 20% or more of the facility requires vegetation removal, less than 20% of the facility requires vegetation removal, minor concrete repair, and major concrete repair. Of the 113 proposed segment FMPs, 43 segments (38%) consist of less than 20% vegetation removal and 11 segments (10%) consist of 20% or more vegetation removal. Additionally, it is estimated that within the 113 FMPs, 50 segments may require minor concrete repair and five segments may require major concrete repair.[3]

Earthen-Bottom Facilities

Proposed maintenance activities in earthen-bottom facilities include six representative segment FMPs of varying intensity: large to small channels/ditches and basins, outlet/inlet structures, a facility that is atypical in size. Of the 113 proposed MWMP segment FMPs, 47 (42%) would consist of earthen-bottom channel/ditch or basin segments and 10 (9%) would consist of outlet/inlet structures. In addition to the four representative segment FMPs, one project, the Tijuana River Smuggler's Gulch project, was analyzed to represent the maximum intensity of anticipated activities associated with earthen-bottom facilities. The Tijuana River Smuggler's Gulch project includes two segments and represents 2% of the FMPs. The earthen-bottom channel/ditch and basins projects are represented by four representative projects to provide a more complete picture of geographies in the City for typical projects.

Timing and Duration

Implementation of maintenance activities for all segments would be ongoing. Based on the City's Transportation & Storm Water Department's fleet and personnel capacity, it was determined that a maximum of 10 maintenance activities[4] could occur concurrently and represent the most

[3] Concrete repair represents additional facility work at locations where vegetation and sediment removal are also anticipated and do not represent separate facilities or standalone FMPs. These concrete repair projects therefore do not count toward the 113 segment FMPs.

[4] Representative projects used to estimate maximum concurrent daily activities include representative project ID's 1 through 5 and 7 through 10, with project ID 9 duplicated to represent two occurrences.

conservative possible daily emissions. Additionally, it was determined that a maximum of 43 activities[5] could occur in a calendar year, representing the maximum potential annual emissions.

The representative proposed maintenance projects selected for this analysis are described in this section. Table 5.4-2 presents a summary of the representative proposed maintenance and repair projects analyzed herein.

Table 5.4-2
Representative Maintenance Projects Summary

Representative Project ID	Maintenance Activity Category	Approximate Number of FMP Segments Represented	Representative FMP(s)	Approximate Linear Feet	Approximate Cubic Yards
1	Concrete with Vegetation Removal (20% or more vegetated)	11	San Diego River – Camino del Rio Segment 1	1,000	800
2	Concrete with Vegetation Removal (less than 20% vegetated)	43	Alvarado Canyon Creek – Mission Gorge Segment 2	600	1,400
3	Minor Concrete Repair	50	Generic Concrete Repair FMP	50	32
4	Major Concrete Repair	5	Tijuana River – Via Encantadoras Segment 3	900	121
5	Earthen Facility Typical– 1	8	Mission Bay – Mission Bay Drive Segment 1	1,000	2,600
6	Earthen Facility Typical– 2	8	Murphy Canyon Creek – Stadium Segment 1	1,700	3,800

[5] The estimated maximum annual maintenance includes 33 segments (19 sediment and vegetation removal, and 14 concrete repair) and 10 structures. Concrete repair and sediment/vegetation removal may occur in the same facility location, but are considered separate projects for purposes of this analysis.

Table 5.4-2
Representative Maintenance Projects Summary

Representative Project ID	Maintenance Activity Category	Approximate Number of FMP Segments Represented	Representative FMP(s)	Approximate Linear Feet	Approximate Cubic Yards
7	Earthen Facility Typical– 3	16	Tecolote Creek – Genesee Segment 1	700	3,600
8	Earthen Facility Typical– 4	15	Mission Hills Canyon Creek – Titus Segment 1	80	200
9	Earthen Facility Typical Outlet/Inlet Structure	10	Outlet/Inlet Structure – 4202 J Street	115	32
10	Tijuana River Smuggler's Gulch Project	2	Tijuana River – Pilot & Smuggler's Gulch Segments*	8,300	30,000

Source: Appendix C.
Notes: FMP = Facility Maintenance Plan.
Details and construction assumptions for each representative project are provided in the Air Quality and Greenhouse Gas Emissions Analysis Technical Report (Appendix C).
* The Tijuana River Smuggler's Gulch represents two segments modeled as one project and should not be doubled to determine estimated emissions from these segments.

5.4.6 IMPACTS

As described in Chapter 4, Project Description, the MWMP provides a description of maintenance and repair activities and supporting implementation methods. The majority of these activities are routine and anticipated to occur in conformance with specific FMPs included in the MWMP (Appendix A). Routine refers to typical activities that occur on a regular, ongoing basis and are associated with maintaining storm water infrastructure. However, additional activities not identified in an FMP may be required and may occur anywhere within the City's storm water conveyance system.

Potential site-specific impacts associated with implementation of MWMP activities and methods as identified in the FMPs are described below under the "Project-Level Analysis (FMPs)" heading for each of the issues identified. As further detailed in Chapter 4, Project Description, MWMP activities

consist of maintenance and repair activities. Maintenance activities include vegetation and invasive plant species management, sediment/debris removal, structural/debris/trash-fence clearing, and culvert clearing. Repair activities include concrete (minor and major) and bank repair, and structural/debris/trash-fence repair.

Potential impacts associated with implementation of additional MWMP activities and methods (e.g., minor maintenance, changed conditions/new or substantially amendment FMPs, compensatory mitigation sites, and emergency maintenance) are identified under Section 5.4.7, Program-Level Analysis (Other MWMP Activities). These impacts are analyzed to the extent feasible at this time; however, additional project-level CEQA analysis and/or new or amended permits may be required prior to implementation.

Issue 1: Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Issue 2: Would the project conflict with the City's Climate Action Plan or another applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Project-Level Analysis (FMPs)

The emissions presented represent the project-level emissions of each representative project and the programmatic-level emissions in the annual summation; neither is used to determine significance (refer to Issue 2).

Maintenance activities under the MWMP would result in GHG emissions primarily associated with use of off-road equipment, on-road hauling and vendor trucks, and worker vehicles. Project-specific information was assumed in CalEEMod based on information provided by City staff and representative FMPs. Detailed construction schedules are presented in the *Air Quality and GHG Technical Report* (Appendix C). On-site sources of GHG emissions would include off-road equipment and off-site sources, including hauling and vendor trucks and worker vehicles.

Table 5.4-3 presents the annual construction emissions generated for each of the 10 representative projects.

Table 5.4-3
Estimated Annual Construction Emissions By Representative Project

Representative Project ID	Maintenance Activity Category	CO_2	CH_4	N_2O	CO_2e
		Metric Tons per Year			
1	Concrete with Vegetation Removal (20% or more vegetated)	9.26	0.00	0.00	9.30
2	Concrete with Vegetation Removal (less than 20% vegetated)	23.87	0.00	0.00	23.97
3	Minor concrete repair	9.78	0.00	0.00	9.82
4	Major concrete repair	90.35	0.01	0.00	90.65
5	Earthen Facility Typical – 1	34.94	0.00	0.00	35.04
6	Earthen Facility Typical – 2	111.02	0.02	0.00	111.47
7	Earthen Facility Typical – 3	73.56	0.01	0.00	73.86
8	Earthen Facility Typical – 4	19.02	0.00	0.00	19.12
9	Earthen Facility Typical Outlet/ Inlet Structure	3.01	0.00	0.00	3.02
10	Tijuana River Smuggler's Gulch	207.05	0.03	0.00	207.79

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
See Appendix C for complete results.
Year 2018 was conservatively assumed to represent the year of construction.

It is anticipated that the maximum number of maintenance activities that would be implemented in a calendar year is 43. Table 5.4-4 presents the maximum activity that would occur in a calendar year.

Table 5.4-4
Estimated Annual Construction Greenhouse Gas Emissions

Project	Occurrence	CO_2	CH_4	N_2O	CO_2e
		Metric Tons per Year			
Concrete with Vegetation Removal (20% or more vegetated)	3	27.78	0.00	0.00	27.90
Concrete with Vegetation Removal (less than 20% vegetated)	6	143.21	0.03	0.00	143.84
Minor Concrete Repair	12	117.42	0.02	0.00	117.85

Table 5.4-4
Estimated Annual Construction Greenhouse Gas Emissions

Project	Occurrence	CO_2	CH_4	N_2O	CO_2e
		Metric Tons per Year			
Major Concrete Repair	2	180.70	0.02	0.00	181.30
Earthen Facility Typical – 1	2	69.88	0.01	0.00	70.09
Earthen Facility Typical – 2	1	111.02	0.02	0.00	111.47
Earthen Facility Typical – 3	3	220.67	0.04	0.00	221.58
Earthen Facility Typical – 4	3	57.07	0.01	0.00	57.37
Earthen Facility Typical Outlet/Inlet Structure	10	30.07	0.01	0.00	30.20
Tijuana River Smuggler's Gulch	1	207.05	0.03	0.00	207.79
Total		**1,164.88**	**0.18**	**0.00**	**1,169.38**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
See Appendix C for complete results.

As shown in Table 5.4-4, the estimated maximum annual GHG emissions during maintenance activities associated with the MWMP would be approximately 1,169 MT CO_2e.

Table 5.4-5 presents the total GHG emissions over the entire maintenance period that would occur over MWMP implementation.

Table 5.4-5
Estimated Total Construction Greenhouse Gas Emissions

Project	Segments in MWMP	CO_2	CH_4	N_2O	CO_2e
		Metric Tons per Year			
Concrete with Vegetation Removal (20% or more vegetated)	11	101.87	0.02	0.00	102.30
Concrete with Vegetation Removal (less	43	1,026.34	0.18	0.00	1,030.86

Table 5.4-5
Estimated Total Construction Greenhouse Gas Emissions

Project	Segments in MWMP	CO_2	CH_4	N_2O	CO_2e
		Metric Tons per Year			
than 20% vegetated)					
Minor Concrete Repair	50	489.24	0.07	0.00	491.03
Major Concrete Repair	5	451.24	0.07	0.00	453.25
Earthen Facility Typical – 1	8	279.52	0.03	0.00	280.36
Earthen Facility Typical – 2	8	888.16	0.14	0.00	891.78
Earthen Facility Typical – 3	16	1,176.90	0.19	0.00	1,181.74
Earthen Facility Typical – 4	15	285.35	0.06	0.00	286.84
Earthen Facility Typical Outlet/Inlet Structure	10	30.07	0.01	0.00	30.20
Tijuana River Smuggler's Gulch	2	414.10	0.06	0.00	415.57
Total		**5,143.33**	**0.81**	**0.00**	**5,163.92**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent.
These estimates only reflect project-level activities.
See Appendix C for complete results.

As shown in Table 5.4-5, the estimated total GHG emissions during maintenance would be approximately 5,164 MT CO_2e. The MWMP's consistency with the City CAP is assessed below, and impacts have been determined to be **less than significant**.

Under CAP Consistency Checklist Step 1, the MWMP would be consistent with the applicable land use designations. Implementation of MWMP maintenance activities would be completed by existing City staff and would not encourage employment or population growth. Step 2 of the CAP Consistency Checklist is not applicable to development projects that would not require a certificate of occupancy from a building official. The CAP Consistency Checklist is included as an appendix to Appendix C of this EIR.

Public projects are required to implement best management practices for construction activities, as set forth in the Greenbook (for public projects). The City has created the Whitebook, which is a supplement that takes precedence over the specification language contained in the Greenbook and addresses the unique conditions in the City that are not addressed in the Greenbook.

The CAP includes the following five strategies developed to reduce City-wide GHG emissions and to achieve GHG reduction targets for the years 2020 and 2035 (City of San Diego 2015b):

1. Energy- and Water-Efficient Buildings
2. Clean and Renewable Energy
3. Bicycling, Walking, Transit, and Land Use
4. Zero Waste (Gas and Waste Management)
5. Climate Resiliency

Each of the City's CAP strategies includes goals to identify ways to reduce GHG emissions. The MWMP's consistency with the applicable strategies is discussed below.

Strategy 1: Energy- and Water-Efficient Buildings

The CAP's first strategy is aimed at energy- and water-efficient buildings. The City's goals under Strategy 1 include reducing residential building and municipal energy consumption, and reducing daily per-capita water consumption. Actions to reduce energy consumption include consideration of a residential Energy Conservation and Disclosure Ordinance and a Municipal Energy Strategy and Implementation Plan. Actions related to water efficiency include implementing new water rates and billing structure, consideration of a Water Conservation and Disclosure Ordinance, and implementation of an Outdoor Landscaping Ordinance requiring weather-based irrigation controllers. Strategy 1 actions are directed at City staff and City Council to adopt ordinances, plans, and supporting City requirements to achieve the City's targets.

The MWMP would not include any new buildings; therefore, the MWMP would not conflict with the applicable CAP goals and actions identified in Strategy 1.

Strategy 2: Clean and Renewable Energy

Strategy 2 focuses on clean and renewable energy. Strategy 2 goals of transitioning to 100% renewable energy on the city-wide electrical grid by 2035, increasing municipal zero-emissions vehicles, and converting existing diesel municipal solid waste collection trucks to compressed natural gas or other alternative low-emissions fuels would be implemented by the City and would not apply to implementation of the MWMP.

The MWMP would not include operational energy demand; therefore, the MWMP would not conflict with the City's ability to implement the actions identified in Strategy 2.

Strategy 3: Bicycling, Walking, Transit, and Land Use

Strategy 3 outlines goals and actions related to bicycling, walking, transit, and land use. Strategy 3 goals include increasing the use of mass transit, increasing commuter walking and bicycling opportunities, reducing vehicle fuel consumption, and promoting effective land use to reduce vehicle miles traveled.

The MWMP would not include any new employees and would not result in any additional growth that would generate permanent regular vehicular trips or demand for vehicle/bicycle parking or mass transit; therefore, the MWMP would not conflict with the applicable CAP goals and actions identified in Strategy 3.

Strategy 4: Zero Waste (Gas and Waste Management)

Strategy 4, which focuses on zero waste, includes the goal of diverting solid waste, capturing landfill CH_4 gas emissions, and capturing CH_4 gas from wastewater treatment.

The City has targeted 75% waste diversion from landfill disposal, consistent with the requirement so of the Public Resources Code. Currently, the City's Transportation and Storm Water Department has a waste diversion rate of approximately 24% (City of San Diego 2017). This low diversion rate is largely due to street sweeping spoils and the types of material removed from channel beds, which are taken to a landfill. Street sweeping spoils are potentially contaminated, and some of the vegetation may not be suitable for processing at organic processing facilities.

While the MWMP would not itself divert 75% of the excavated material from disposal, the MWMP would not worsen the baseline condition in terms of the disposal rate for this program. The CAP sets forth strategies and implementing actions related to solid waste diversion, which, together with the CAP annual monitoring program, would ensure that the City achieves the reductions called for in the CAP. While the CAP calls for developing new waste diversion strategies and calls on the City to "lead by example" (page 9 of the Zero Waste Plan), it does not specifically call for the achievement of the waste diversion goal through measures related to storm water channel maintenance. The MWMP would also not impede implementation of any of the CAP strategies to achieve the City's GHG emissions reduction targets. In addition, the MWMP includes Environmental Protocols (EPs) EP-SW-1 through EP-SW-8, which would ensure that waste is diverted from the landfill to the maximum extent feasible. Thus, the MWMP would not impede implementation with CAP goals and actions identified in Strategy 4.

Strategy 5: Climate Resiliency

The fifth and last strategy relates to climate resiliency and includes the goal of increasing tree canopy coverage. The action under this goal includes consideration of a City-wide Urban Tree Planting Program, which would incorporate water conservation measures and prioritization of drought-tolerant and native trees and plantings in areas with recycled water.

As discussed in the Biological Resources section of this EIR, potential temporary and permanent impacts to sensitive vegetation communities or trees would be mitigated for. The MWMP does not include additional planting of canopy trees and other vegetation that would support this strategy. The MWMP would not conflict with the City's actions to increase tree canopy coverage through a planting program and supporting measures. Strategy 5 of the CAP is not directly applicable to the MWMP; however, the MWMP would not conflict with the City's actions to implement Strategy 5.

The MWMP is consistent with each of the CAP strategies. With implementation of **EP-SW-1** through **EP-SW-8**, the MWMP would have a **less than significant impact**.

5.4.7 PROGRAM-LEVEL ANALYSIS (OTHER MWMP ACTIVITIES)

Programmatic activities would include minor maintenance activities, changed conditions or new/substantially amended FMPs, new compensatory mitigation sites (see Section 5.3, Biological Resources), and emergency maintenance or repair. Under the MWMP, these additional programmatic activities would be subject to the review and approval processes outlined in the MWMP.

Similar to project activities analyzed above, programmatic activities, such as minor maintenance, establishing a new compensatory mitigation site, and emergency maintenance and repair, all have the ability to generate emissions. As stated in Section 5.4.5, Approach and Methodology, representative projects were used to conservatively estimate emissions from different types of MWMP activities. The representative projects are intended to represent a maximum, or most conservative, scenario associated with the different types of activities, including programmatic maintenance activities, which would occur under the MWMP. Program-level activities could generate additional emissions, but none of the program-level activities would result in a land use change that would generate emissions greater than those assumed in the CAP. The CAP provides for flexibility in achieving Citywide GHG emissions reductions and includes a monitoring program that ensures that the City will achieve the GHG reductions identified in the CAP. Therefore, program-level MWMP activities would result in **less than significant** impacts.

As discussed for Issue 2, MWMP activities would be consistent with each of the CAP strategies as explained under Section 5.4.6. Similar to project-level activities, with implementation of **EP-SW-1** through **EP-SW-8**, program-level activities under the MWMP would have a **less than significant impact**.

5.4.8 SIGNIFICANCE OF IMPACT

Implementation of **EP-SW-1** through **EP-SW-8**, as identified in Section 5.11, Solid Waste, ensure that waste transferred to a landfill as a result of MWMP project- and program-level activities is diverted to the maximum amount feasible consistent with the CAP. No mitigation measures are required.

5.4.9 MITIGATION MEASURES

Impacts would be less than significant and no mitigation measures are required.

5.4.10 SIGNIFICANCE AFTER MITIGATION

Accumulated trash, debris, and sediment must be removed periodically to keep storm water facilities functioning as designed to carry storm water downstream and to manage flood risk. When implemented, **EP-SW-1** through **EP-SW-8**, as detailed in Section 5.11, Solid Waste, would ensure that waste is diverted to the maximum extent feasible, consistent with the CAP. Therefore, impacts would be **less than significant**.

5.5 HEALTH AND SAFETY/HAZARDS

5.5.1 INTRODUCTION

This section describes the existing health, safety, and hazards setting of the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP); identifies the applicable regulatory framework; evaluates potential impacts associated with health, safety, and hazards that would result from the proposed MWMP; identifies mitigation measures, if necessary, to reduce the level of impact associated with implementation of the proposed MWMP; and identifies the level of significance after any mitigation. To determine potential impacts related to health, safety, and hazards/hazardous materials from the proposed MWMP, a review was conducted of hazardous materials sites, relevant emergency response and emergency evacuation plans, and resources currently in place to suppress wildland fires. Proposed MWMP activities were then analyzed for potential impacts on these resources. For additional discussion regarding the disposal of hazardous waste, see Section 5.11, Solid Waste.

Implementation of the MWMP was determined to result in less-than-significant impacts related to hazards due to proximity to an airport and impairment or interference with an emergency response or evacuation plan. As such, potential impacts regarding these issues are analyzed in Chapter 7, Effects Not Found to be Significant.

5.5.2 EXISTING CONDITIONS

Hazardous Material Sites

To determine the potential for storm water facilities to be located on a site that may be impacted by hazardous wastes/materials, a database search was conducted of regulatory records and available online databases. The regulatory database search consisted of 31 state and federal databases, including the California Hazardous Waste Material Incident Report System (CHMIRS); Leaking Underground Storage Tanks (LUST); Spills, Leaks Investigation & Cleanup Sites (SLIC); ENVIROSTOR; and others. A full listing of databases searched is provided in the database search that was completed by Environmental Data Resources Inc. (EDR) (Appendix L).

Dudek reviewed the EDR report to determine which sites have had releases of petroleum or other chemicals with the potential to affect the environmental condition of the MWMP plan-wide area. Sites were reviewed for their regulatory status, impacted media (soil, groundwater), and contaminants of concern (e.g., gasoline, benzene).

Sites Outside MWMP Facilities

Per City's CEQA Guidelines (City of San Diego 2016), the database search was limited to sites within 1,000 feet (2,000 feet for Superfund listings) of MWMP facilities. Sites down-gradient of MWMP facilities were ruled out because they are not likely to impact the environmental condition of MWMP facilities. Some of the sites are listed in several of the databases searched, so these entries were consolidated. A total of 2,054 unique sites were identified as being up-gradient of MWMP facilities and within the search radius. Six sites were listed as inactive or referred to another agency. These types of sites may have deferred investigation, be operated by uncooperative parties, or have been referred to another regulatory agency. These six records do not describe releases. Due to the lack of available data or apparent action, these sites are assumed to be low-priority to the regulatory agencies and therefore low-threat to the environment. Based on the EDR database search, 880 of the remaining 2,048 sites were identified as having known or potential releases of hazardous materials/wastes or contaminants, located near or adjacent to MWMP facilities.

Of the 880 sites with known or suspected releases, 857 are listed as closed or otherwise requiring no further action by the lead regulatory agency. These listings include the following types of sites: gas stations, dry cleaners, landfills, auto mechanics, and manufacturing sites. Sites with known releases, such as gas stations, landfills, and dry cleaners, could have residual impacts remaining in the soil. Although these sites no longer require regulatory action, residual impacts could pose a risk to activities proposed under the MWMP.

Lastly, 23 sites are listed as open or active or as having known residual contamination within 1,000 feet of MWMP facilities. Of these 23 sites of potential concern, four sites are located within 100 feet of MWMP facilities. A status of open/active means a site may be undergoing an environmental investigation or in the process of remediation. A status of open/active may also be assigned to sites where contamination is known to occur, but remediation has yet to be completed or verified. The 23 sites of potential concern are summarized in Table 5.5-1.

Table 5.5-1
Hazardous Materials Sites: Summary of Open Sites Within 1,000 feet of MWMP Facilities

Facility/ IAMFLOC Number	Hazardous Materials Site Name	Hazardous Materials Site Address	MWMP Facility	Distance (feet)	Regulatory Status, Year	Impacted Media	Constituents of Concern	Regulatory Database Listings
San Dieguito River Watershed								
1-04-030	EXXON/MOBIL #18-094	11898 Rancho Bernardo Road, San Diego	Green Valley Creek – Pomerado Seg 1	288	Open, 2010	Soil, groundwater	Gasoline, oil, PCE	HMMD San Diego
Los Peñasquitos Watershed								
2-01-130	Kyocera International Inc.	11620 Sorrento Valley Road, San Diego	Los Peñasquitos Lagoon – Tripp Seg 1	482	Open, 2015 (groundwater); Closed 2006 (soil)	Groundwater	Chlorinated hydrocarbons	CHMIRS
2-01-210	Canyonside Stables	12115 Black Mountain, San Diego	Los Peñasquitos Canyon Creek – Black Mountain Road – Seg 2	56	Unpermitted landfill, now closed	Not reported	Not reported	HMMD San Diego
Mission Bay Watershed								
3-00-120	Pottery Canyon Burn Ash Site	2725 Torrey Pines Road	Torrey Pines – Torrey Seg 1	147	Landfill	Not reported	Landfill	HMMD San Diego

Table 5.5-1
Hazardous Materials Sites: Summary of Open Sites Within 1,000 feet of MWMP Facilities

Facility/ IAMFLOC Number	Hazardous Materials Site Name	Hazardous Materials Site Address	MWMP Facility	Distance (feet)	Regulatory Status, Year	Impacted Media	Constituents of Concern	Regulatory Database Listings
3-02-130	Jefferson Pacific Beach	4275 Mission Bay Drive	Mission Bay – Mission Bay Drive Seg 1	120	Open, 2015	Not reported	Petroleum	HMMD San Diego
3-03-901	SD Fence Co Inc.	7920 Engineer Road	Miramar – Engineer Seg 1	97	Closed 2014, known residual	Soil and groundwater	Gasoline, BTEX	HMMD San Diego, CHMIRS
San Diego River Watershed								
4-01-120	Famosa Blvd. Secondary Deposit Site	2400 Block of Famosa Blvd., San Diego	San Diego River – Valeta Seg 1	315	Unpermitted landfill, now closed	Not reported	Not reported	HMMD San Diego
4-01-120	Mission Bay Landfill	Mission Bay – Sea World Drive, San Diego	San Diego River – Valeta Seg 1	325	Landfill, non-hazardous, active	Not reported	Not reported	HMMD San Diego, EMI, SLIC, RGA LUST, SAN DIEGO CO LOP, SAN DIEGO CO. SAM
4-03-101	Town & Country Resort Hotel	500 Hotel Circle, San Diego	San Diego River – Camino Del Rio –	421	Open, 2018	Soil, groundwater	Petroleum	HIST CORTESE, HMMD San Diego, LUST,

Table 5.5-1
Hazardous Materials Sites: Summary of Open Sites Within 1,000 feet of MWMP Facilities

Facility/ IAMFLOC Number	Hazardous Materials Site Name	Hazardous Materials Site Address	MWMP Facility	Distance (feet)	Regulatory Status, Year	Impacted Media	Constituents of Concern	Regulatory Database Listings
			Camino Del Arroyo Seg 1					RGA LUST, ERNS, CHMIRS
Pueblo San Diego Watershed								
5-02-153	Grant K–8 School	1425 Washington Place, San Diego	Washington Canyon Creek – Washington Seg 2	633	Cleanup in progress; impacts to shallow soil only	Soil	Metals, dioxins	HMMD San Diego
HW02440	Legacy International Center	875 Hotel Circle, San Diego	901 Hotel Circle South	955	Closed 2010, reopened 2018	Soil, groundwater	Gasoline, MTBE	HMMD San Diego
5-02-162	Former Texaco Station	845 Morena Blvd., San Diego	Mission Hill Canyon Creek – Titus Seg 1	916	Open, 2010	Groundwater	Gasoline, BTEX	CHMIRS
5-03-100	U.S. Naval Hospital, San Diego	Florida Place & Pershing Drive, San Diego	Powerhouse Canyon Creek – Pershing Seg 2	176	Dumping reported in 1941–1956, expect residual	Not reported	Waste oil, solvents	CHMIRS
5-04-004	Southern California Plating Co Inc.	3261 National	Chollas Creek – National –	246	Open, 2015; cleanup in progress	Soil, groundwater	Lead, PCE	CHMIRS

Table 5.5-1
Hazardous Materials Sites: Summary of Open Sites Within 1,000 feet of MWMP Facilities

Facility/ IAMFLOC Number	Hazardous Materials Site Name	Hazardous Materials Site Address	MWMP Facility	Distance (feet)	Regulatory Status, Year	Impacted Media	Constituents of Concern	Regulatory Database Listings
		Avenue, San Diego	National Seg 1					
5-04-280	North Chollas Burn Site	2470 Caminito Chollas, San Diego	Chollas Creek – 54th Street Seg 1	222	Open, 1988	Not reported	Not reported	HMMD San Diego
5-05-008	Imperial Auto Electric	107 47th Street, San Diego	South Chollas Creek – Southcrest – Ocean View Seg 1	944	Open, 1995	Groundwater	Gasoline	HMMD San Diego
5-05-021	Peters Auto Service	799 Euclid Avenue South	South Chollas Creek – Euclid Seg 2	129	Open, 2010	Soil	Gasoline	RGA LUST, CHMIRS, EMI, HMMD SAN DIEGO, LUST, RGA LUST, SAN DIEGO CO. SAM, SAN DIEGO CO LOP
5-05-021	Wolfe/Long Trust Property	4970 Market	South Chollas	153	Closed 1996, 1998,	Soil, soil vapor	Gasoline, lead, waste oil	CHMIRS

Table 5.5-1
Hazardous Materials Sites: Summary of Open Sites Within 1,000 feet of MWMP Facilities

Facility/ IAMFLOC Number	Hazardous Materials Site Name	Hazardous Materials Site Address	MWMP Facility	Distance (feet)	Regulatory Status, Year	Impacted Media	Constituents of Concern	Regulatory Database Listings
			Creek – Euclid Seg 2		reopened 2010			
5-05-021	Northwest Village Commercial Phase 2	504 Euclid Avenue	South Chollas Creek – Euclid Seg 2	204	Open, 2012	Not reported	Petroleum	HMMD San Diego
5-05-306	The Bug House	5855 Market Street, San Diego	South Chollas Creek Encanto Branch – Imperial – Imperial Seg 2	22	Closed 2011, known residual, restricted land use	Groundwater	Gasoline	HMMD San Diego
5-06-005	One Ten Liquor	110 National City, San Diego	Paleta Creek – Cottonwood Seg 1	871	Open, 2017	Groundwater	Gasoline	RGA LUST, EMI, HIST CORTESE, LUST, SLIC, SAN DIEGO CO. CA
Tijuana River Watershed								
6-01-020	Brown's Fill Disposal Site	2336 Hollister	Tijuana River – Pilot & Smugglers –	436	Mixed non-hazardous	Not reported	Not reported	HIST CORTESE, HMMD San

Table 5.5-1
Hazardous Materials Sites: Summary of Open Sites Within 1,000 feet of MWMP Facilities

Facility/ IAMFLOC Number	Hazardous Materials Site Name	Hazardous Materials Site Address	MWMP Facility	Distance (feet)	Regulatory Status, Year	Impacted Media	Constituents of Concern	Regulatory Database Listings
		Street, San Diego	Pilot Channel Seg 1		landfill, closed 1982			Diego, LUST, RGA LUST, SLIC, SAN DIEGO CO LOP, SAN DIEGO CO. SAM
6-04-253	Cactus Road – aka Tripp Salvage	1700–1902 Cactus Road, San Diego	Spring Canyon Creek – Cactus Seg 2	69	Unpermitted landfill, now closed	Not reported	Not reported	HMMD San Diego

CHMIRS = California Hazardous Waste Material Incident Report System; DOD = Department of Defense; EMI = Emissions Inventory Data; ERNS = Emergency Response Notification System; HIST CORTESE = Historical "Cortese" Hazardous Waste and Substances Sites List; HMMD = Hazardous Materials Management Division; IAMFLOC = Infrastructure Asset Management Facility Location; IWTP = International Wastewater Treatment Plant; LUST = leaking underground storage tank; MWMP = Municipal Waterways Maintenance Plan; NA = not applicable; RGA = Recovered Government Archive; SAN DIEGO CO. LOP = San Diego County Local Oversight Program; SAN DIEGO CO. SAM = San Diego County Site Assessment and Mitigation Program; Seg = Segment; SEP = Supplemental Environmental Project; SLIC = Spills, Leaks Investigation & Cleanup Sites; WMUDS/SWAT = Waste Management Unit Database System

Sites Within MWMP Facilities

Based on the database search performed, 16 sites were identified as having known or potential releases of hazardous materials/wastes or other contaminants located within the MWMP facilities. These 16 sites are listed as closed or otherwise requiring no further action by the lead regulatory agency. These listings include the following types of sites: gas stations, dry cleaners, landfills, auto mechanics, and manufacturing sites. Sites with known releases, such as gas stations, landfills, and dry cleaners, could have residual impacts remaining in the soil. Although these sites no longer require regulatory action, residual impacts could pose a risk to activities proposed under the MWMP. No currently open/active sites were listed within the boundaries of the MWMP facilities.

Wildland Fires

MWMP facilities proposed for maintenance that are located within open space areas designated as Very High Fire Hazard Severity Zones by the City have the highest potential risk of wildfires (City of San Diego 2009). These facilities are as follows:

- Los Peñasquitos Watershed
    - Chicarita Creek – Via San Marco
    - Los Peñasquitos Canyon Creek – Black Mountain (Segments 1 and 2), 5-805 Basin, and Sorrento Valley
    - Los Peñasquitos Lagoon – Industrial (Segments 1 and 2) and Tripp
    - Soledad Canyon Creek – Dunhill, Flintkote, Sorrento – Roselle (Segments 1 and 2), and Sorrento – SorValRd (Segments 1 and 2)
- San Diego River Watershed
    - Murphy Canyon Creek – Stadium – Murphy Canyon (Segments 1 and 2)
- Tijuana River Watershed
    - Spring Canyon Creek – Cactus (Segments 1 and 2)
    - Tijuana River – Pilot & Smugglers – Smuggler's Gulch

The San Diego Fire-Rescue Department (SDFD) is responsible for the preparation, maintenance, and execution of Fire Preparedness and Management Plans. In the event of a large wildfire within or threatening City limits, this City department could be assisted by the California Department of Forestry and Fire Protection, Federal Fire Department, or other local fire departments.

Emergency Preparedness

The County of San Diego Office of Homeland Security (SD-OHS) oversees the City's Preparedness Grant, Emergency Preparedness, Emergency Operations Center (EOC), and Public and Disaster Assistance programs. The collective purpose of these four programs and the mission of SD-OHS is to promote a secure and resilient City with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk. These risks include events such as natural disasters, disease pandemics, chemical spills and other human-caused hazards, terrorist attacks, and cyber-attacks (County of San Diego 2017).

With the Preparedness Grant Program, SD-OHS is responsible for securing and managing federal Homeland Security grant funds for the entire San Diego region through the Federal Emergency Management Agency (FEMA) Urban Area Security Initiative. Urban Area Security Initiative grants are intended to address the needs of high-threat, high-density urban areas, and assist them in building an enhanced and sustainable capacity to prevent, protect against, mitigate, respond to, and recover from acts of terrorism. Urban Area Security Initiative grants focus on enhancing preparedness through regional collaboration and development of integrated regional capabilities. SD-OHS also manages and administers other FEMA grant programs that are awarded or allocated directly to the City to improve its emergency preparedness capabilities. These other federal grant sources include the State Homeland Security Program and the Emergency Management Performance Grants Program (County of San Diego 2017).

The Emergency Preparedness Program enhances and supports the City's preparedness for major emergencies and disasters. This program leads the development and review of City-level emergency plans; facilitates the integration of the City's emergency plans both internally and externally; coordinates and collaborates with county, state, and federal jurisdictions and agencies; manages and supports the City's readiness and utilization of the regional Community Emergency Notification System (i.e., Alert San Diego); facilitates the provision of information to the public and the business community to assist in emergency preparations and response; and coordinates and oversees relevant City-wide emergency training and exercises (County of San Diego 2017).

During major emergencies and disasters, the City's EOC may be activated to support and coordinate the City's overall, multi-department emergency response and recovery operations. Under the Emergency Operations Center Program, SD-OHS maintains the operational readiness of the City's primary EOC and alternate EOC. This program develops and updates EOC protocols and processes; manages the assignment, training, and readiness of EOC staff members; maintains and enhances EOC facilities, equipment, and information management systems; and develops and updates protocols and resources to support the SD-OHS Duty Officer. The SD-OHS Duty Officer is a rotating,

2-week, 24/7 assignment that serves as an emergency point of contact and resource for City officials and regional partners (County of San Diego 2017).

Through the Public and Disaster Assistance Program, SD-OHS facilitates the City's recovery from major emergencies and disasters. With this program, SD-OHS manages and coordinates the City's participation in state and federal recovery-related financial assistance programs such as the FEMA Public Assistance Grant Program and the California Disaster Assistance Act Program (County of San Diego 2017).

5.5.3 REGULATORY SETTING

Federal

Federal Toxic Substances Control Act of 1976 and Resource Conservation and Recovery Act of 1976

The Federal Toxic Substances Control Act of 1976 and the Resource Conservation and Recovery Act of 1976 established a program administered by the Environmental Protection Agency (EPA) for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. The Resource Conservation and Recovery Act was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle-to-grave" system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act (EPA 2013).

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as "Superfund," was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan. The National Contingency Plan provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The National Contingency Plan also established the National Priorities List, which is a list of contaminated sites warranting further investigation by the EPA. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986 (EPA 2012).

Superfund Amendments and Reauthorization Act (SARA Title III)

The Superfund Amendments and Reauthorization Act (SARA Title III), which was enacted in 1986 as a legislative response to airborne releases of methylisocyanate at Union Carbide plants in Bhopal, India, and in Institute, West Virginia. SARA Title III, also known as the Emergency Planning and Community-Right-To-Know Act (EPCRA), directs businesses that handle, store, or manufacture hazardous materials in specified amounts to develop emergency response plans and report releases of toxic chemicals. Additionally, Section 312 of Title III requires businesses to submit an annual inventory report of hazardous materials to a state-administering agency. The California legislature passed Assembly Bill 2185 in 1987, incorporating the provisions of SARA Title III into a state program. The community right-to-know requirements keep communities abreast of the presence and release of hazardous wastes at individual facilities.

State

California Environmental Protection Agency

The California EPA implements and enforces a statewide hazardous materials program known as the Certified Unified Program established by Senate Bill 1802 to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental and emergency management programs for hazardous materials:

- Hazardous Materials Release Response Plans and Inventories (Business Plans)
- California Accidental Release Prevention Program
- Underground Storage Tank Program
- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control, and Countermeasure Plans
- Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs
- California Uniform Fire Code, Hazardous Materials Management Plans, and Hazardous Material Inventory Statements

California Hazardous Waste Control Law

The California Hazardous Waste Control Law is administered by the California EPA to regulate hazardous wastes. Although the Hazardous Waste Control Law is generally more stringent than the Resource Conservation and Recovery Act, until the federal EPA approves the California Hazardous Waste Control Program (which is charged with regulating the generation, treatment, storage, and disposal of hazardous waste), both the state and federal laws apply in California. The Hazardous

Waste Control Law lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

The California Code of Regulations (CCR) 22 CCR Section 66261.10 provides that waste has "hazardous" characteristics if it has the following effects:

> [a] (1) a waste that exhibits the characteristics may: (A) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed or otherwise managed.

According to 22 CCR (Article 11, Chapter 3), substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous waste. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, contaminated, or are being stored prior to proper disposal (EPA 2019).

Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substance involved). Carcinogens (substances known to cause cancer) are a special class of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances (e.g., gasoline, hexane, and natural gas) are hazardous because of their flammable properties. Corrosive substances (e.g., strong acids and bases such as sulfuric (battery) acid or lye) are chemically active and can damage other materials or cause severe burns upon contact. Reactive substances (e.g., explosives, pressurized canisters, and pure sodium metal, which reacts violently with water) may cause explosions or generate gases or fumes.

Other types of hazardous materials include radioactive and biohazardous materials. Radioactive materials and wastes contain radioisotopes, which are atoms with unstable nuclei that emit ionizing radiation to increase their stability. Radioactive waste mixed with chemical hazardous waste is referred to as "mixed wastes." Biohazardous materials and wastes include anything derived from living organisms. They may be contaminated with disease-causing agents, such as bacteria or viruses (22 CCR 66251.1 et seq.).

California Accidental Release Prevention Program

The California Accidental Release Prevention (CalARP) program was implemented on January 1, 1997, and replaced the California Risk Management and Prevention Program. The objectives of the CalARP program are to prevent accidental releases of substances that can cause serious harm to the public and the environment, to minimize the damage if releases do occur, and to satisfy community right-to-know laws. This is accomplished by requiring businesses that handle more than a threshold quantity of a regulated substance listed in the regulations to develop a Risk Management Plan. A Risk Management Plan is a detailed engineering analysis of the potential accident factors present at a business and the Mitigation Framework measures that can be implemented to reduce this accident potential. The CalARP program is implemented at the local government level by Certified Unified Program Agencies, also known as administering agencies. The CalARP program is designed so these agencies work directly with the regulated businesses. Certified Unified Program Agencies determine the level of detail in the risk management plans, review the risk management plans, and conduct facility inspections (CalOES 2011).

California Department of Toxic Substances Control and California Highway Patrol Hazard Transportation Program

The California Department of Toxic Substances Control (DTSC) administers the transportation of hazardous materials throughout the state. Regulations applicable to the transportation of hazardous waste include 22 CCR, Division 4.5, Chapters 13 and 29, as well as Division 20, Chapter 6.5, Articles 6.5, 6.6, and 13 of the California Health and Safety Code. The DTSC requires that drivers transporting hazardous wastes obtain a certificate of driver training that shows the driver has met the minimum requirements concerning the transport of hazardous materials, including proper labeling and marking procedures, loading/handling processes, incident reporting and emergency procedures, and appropriate driving and parking rules. The California Highway Patrol also requires shippers and carriers to complete hazardous materials employee training before transporting hazardous materials.

California Health and Safety Code

The handling and storage of hazardous materials is regulated by Division 20, Chapter 6.95 of the California Health and Safety Code. Under Sections 25500–25543.3, facilities handling hazardous materials are required to prepare a Hazardous Materials Business Plan. Hazardous Materials Business Plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the state.

Chapter 6.95 of the Health and Safety Code establishes minimum statewide standards for Hazardous Materials Business Plans. Each business must prepare a Hazardous Materials Business

Plan if that business uses, handles, or stores a hazardous material (including hazardous waste) or an extremely hazardous material in disclosable quantities greater than or equal to the following:

- 500 pounds of a solid substance
- 55 gallons of a liquid
- 200 cubic feet of compressed gas
- A hazardous compressed gas in any amount (highly toxic with a Threshold Limit Value of 10 parts per million or less)
- Extremely hazardous substances in threshold planning quantities

California Occupational Safety and Health Administration Hazard Handling Procedures

The California Occupational Safety and Health Administration (CalOSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. CalOSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

Emergency Services Act

Under the Emergency Services Act, the State of California developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an integral part of the plan, which is administered but the Governor's Office of Emergency Services. The Office of Emergency Services coordinates the responses of other agencies, including the EPA, California Highway Patrol, Regional Water Quality Control Boards, Air Quality Management Districts, and county disaster response offices (Governor's Office of Emergency Services 2006).

The Emergency Planning Community Right-to-Know Act

The Emergency Planning Community Right-to-Know Act requires facilities to disclose to the State and Local Emergency Planning Committee the quantities and type of toxic chemicals stored. To avoid multiple reports to various agencies, the California Health and Safety Code requires notification of chemical inventory to the Administering Agency (DTSC). Notification of chemical inventory is accomplished through completion of a Hazardous Materials Business Plan and inventory (EPA 2015).

Local

San Diego County Area Plan

The County of San Diego DEH, Hazardous Materials Division, established the San Diego County Area Plan (Area Plan) based on requirements of Chapter 6.95 of the California Health and Safety Code, Title 19 of the CCR, and the EPA Superfund Amendments and Reauthorization Act Title III for emergency response to a release or threatened release of a hazardous material within San Diego County. The Hazardous Materials Program and Response Plan contained in the Area Plan serves the majority of the cities in San Diego County, including the City of San Diego.

As part of the Area Plan, the Federal Risk Management Plan, as incorporated and modified by the CalARP program, is designed to prevent harm to people and the surrounding environment by the use of various organized systems to identify and manage hazards. The goal of the CalARP program is to make all facilities that handle regulated substances free of catastrophic incidents.

Any stationary source (business) that exceeds the threshold quantities of regulated substances is required to submit a risk management plan under the CalARP program. A Business Emergency Plan must be submitted by all businesses that handle hazardous materials over a designated threshold quantity. Upon completion of a Business Emergency Plan, the plan is submitted to San Diego's local Certified Unified Program Agency. The Certified Unified Program Agency with responsibility for the City is the County of San Diego DEH, Hazardous Materials Management Division (HMMD). A Business Emergency Plan contains vital information that may be used to minimize the effects and extent of a threatened release of hazardous materials. In addition, this information allows emergency response personnel to determine potential risks and hazards while developing a strategy for handling an emergency involving hazardous material. Annually submitted risk management plans are currently reviewed by DEH.

If a major hazardous materials emergency occurred within the City, the first response would be from the SDFD and the County of San Diego Hazardous Incident Response Team.

City of San Diego Solid Waste Local Enforcement Agency

The City of San Diego Solid Waste Local Enforcement Agency is a program within the City's Development Services Department that is certified by the state Department of Resources Recycling and Recovery to implement and enforce state laws and regulations for solid waste facilities throughout the City.

Solid waste facilities include active and closed landfills, former disposal sites (including burn sites), transfer facilities, composting facilities, waste tire facilities, and waste haulers. The Local

Enforcement Agency issues permits to the above facility types and conducts routine inspections to monitor sites for compliance with state laws and regulations. The overall purpose of these laws and regulations is to protect public health and safety and the environment.

5.5.4 THRESHOLDS OF SIGNIFICANCE

The City's *California Environmental Quality Act (CEQA) Significance Determination Thresholds* (City of San Diego 2016) and Appendix G of the CEQA Guidelines contain significance guidelines related to health and safety. The following questions are adapted from the City's Significance Thresholds, and provide guidance to determine potential significance for health and safety impacts:

Issue 1a: Would the project expose people or structures either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Issue 1b: Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Issue 1c: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Issue 1d: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Issue 2: Would any component of the project interface or intersect with a site that is included on a hazardous material sites list compiled pursuant to Government Code Section 6596.25 and, as a result, pose a potential hazard to the public or environment?

Issue 3: Result in hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within a quarter-mile of an existing or proposed school?

Issue 4: Expose people to toxic substances through reasonably foreseeable conditions, such as pesticides and herbicides, some of which have long-lasting ability, applied to the soil during previous agricultural uses?

5.5.5 APPROACH AND METHODOLOGY

The activities proposed in the MWMP were developed with the goal of avoiding and minimizing potential impacts related to health, safety, and hazards, as well as reducing potential exposure of hazardous materials to workers, the public, and the environment. As such, the following Environmental Protocols

(EPs) are identified as part of the proposed MWMP because these specific proposed activities serve to reduce such impacts.

Environmental Protocols

EP-HAZ-1 **Hazardous Materials Monitoring (Known Hazards).** Hazardous materials monitoring shall be performed for all excavation activities within or surrounding *Municipal Waterways Maintenance Plan* (MWMP) facilities where the potential presence of hazardous materials has been previously identified within 100 feet of closed/inactive sites, or within 200 feet of open/active sites, as identified in Table 5.5-1, Hazardous Materials Sites: Summary of Open Sites Within 1,000 feet of MWMP Facilities, for currently identified Facility Maintenance Plans (FMPs), or based on a future regulatory database search for facilities without currently identified FMPs.

The hazardous materials monitoring shall be conducted by a 40-hour HAZWOPER-trained environmental professional experienced in the identification, assessment, handling, and disposal of contaminated soils and groundwater. The environmental professional shall use visual and olfactory observations and a photo ionization detector to screen soil for potentially hazardous materials. The Hazardous Materials Contingency Plan describes soil screening methods and steps to implement if hazardous materials are determined to be likely present by the environmental professional.

EP-HAZ-2 **Hazardous Materials Contingency Plan.** A *Hazardous Materials Contingency Plan* (HMCP) has been prepared for the proposed MWMP. City of San Diego Transportation & Storm Water Department shall ensure activities proposed under the MWMP demonstrate consistency with the approved HMCP.

The intent of the HMCP is to provide guidance to maintenance crews/contractors who may encounter known or previously unknown soil or groundwater contaminants during the course of their work. The plan includes a discussion of known contaminants and common contaminants that may be encountered during maintenance activities, field screening and monitoring procedures, procedures for managing contaminated or potentially contaminated soil stockpiles, waste characterization sampling procedures and a description of potential soil disposal options. The plan also includes protocols for reporting suspected contaminants to the appropriate regulatory agency, authority to stop work, and other necessary information.

The plan has been prepared under the direction of a licensed environmental professional experienced in the identification, assessment, handling, and disposal of

contaminated soils and groundwater. Guidance and procedures presented in the plan conform with applicable federal, state, and local requirements.

EP-HAZ-3 **Facilities with Previously Unknown Hazards.** If maintenance personnel encounter soils, surface water, groundwater, or other materials that they suspect are hazardous, an on-call 40-hour HAZWOPER-trained environmental professional experienced in the identification, assessment, handling, and disposal of contaminated soils and groundwater shall be contacted to assess the suspect materials. The environmental professional shall use field screening techniques appropriate for the suspect media to determine if it is likely hazardous or if additional testing or assessment is required. If the environmental professional determines that the suspect media is likely hazardous, the material shall be managed in accordance with the approved HMCP.

5.5.6 IMPACTS

As described in Chapter 4, Project Description, the MWMP provides a description of maintenance and repair activities and supporting implementation methods. The majority of these activities are routine and anticipated to occur in conformance with specific Facility Maintenance Plans (FMPs) included in the MWMP (Appendix A). Routine refers to typical activities that occur on a regular, ongoing basis and are associated with maintaining storm water infrastructure. However, additional activities not identified in an FMP may be required and may occur anywhere within the City's storm water conveyance system.

Potential site-specific impacts associated with implementation of MWMP activities and methods as identified in the FMPs are described below under the "Project-Level Analysis (FMPs)" heading for each of the issues identified. As further detailed in Chapter 4, Project Description, MWMP activities consist of maintenance and repair activities. Maintenance activities include vegetation and invasive plant species management, sediment/debris removal, structural/debris/trash-fence clearing, and culvert clearing. Repair activities include concrete (minor and major) and bank repair, and structural/debris/trash-fence repair.

Potential impacts associated with implementation of additional MWMP activities and methods (e.g., minor maintenance, changed conditions/new or substantially amendment FMPs, compensatory mitigation sites, and emergency maintenance) are identified under Section 5.5.7, Program-Level Analysis (Other MWMP Activities). These impacts are analyzed to the extent feasible at this time; however, additional project-level CEQA analysis and/or new or amended permits may be required prior to implementation.

Issue 1a: Would the project expose people or structures either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Issue 1b: Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Issue 1c: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Issue 1d: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Project-Level Analysis (FMPs)

Storm water facilities proposed for maintenance under the MWMP are located in both urban settings and open space areas of the City. Facilities in open space areas could have potentially flammable materials such as brush, grass, or trees, which could pose a slight risk of wildfires. It is possible for engine-powered equipment and vehicles used during maintenance activities to produce exhaust particles that could ignite fire. In addition, the threat of starting a wildfire may be elevated during dry and windy days, and in locations with abundant fuel sources.

The following storm water facilities are located within open space areas designated as Very High Fire Hazard Severity Zones by the City (City of San Diego 2009) and have the highest potential risk of wildfires:

- Los Peñasquitos Watershed
    - Chicarita Creek – Via San Marco
    - Los Peñasquitos Canyon Creek – Black Mountain (Segments 1 and 2), 5-805 Basin , and Sorrento Valley
    - Los Peñasquitos Lagoon – Industrial (Segments 1 and 2) and Tripp
    - Soledad Canyon Creek – Dunhill, Flintkote, Sorrento – Roselle (Segments 1 and 2), and Sorrento – SorValRd (Segments 1 and 2)
- San Diego River Watershed
    - Murphy Canyon Creek – Stadium – Murphy Canyon (Segments 1 and 2)

- Tijuana River Watershed
    - Spring Canyon Creek – Cactus (Segments 1 and 2)
    - Tijuana River – Pilot & Smugglers – Smuggler's Gulch

Concrete maintenance or repair activities listed in the locations above could result in an increased risk of wildland fires due to the potential for sparks from equipment and/or vehicles that would be on site to perform maintenance activities. However, the City provides maintenance crews with fire safety measures in compliance with Chapter 14 of the California Fire Code, and gasoline-powered or diesel-powered machinery used during maintenance and repair activities would be equipped with standard exhaust controls and muffling devices that would also act as spark arrestors. Fire containment and extinguishing equipment would be located on site and would be accessible during maintenance and repair activities. Maintenance crews are trained to use fire suppression equipment and would not be permitted to idle vehicles at maintenance sites when not in use. The City also sends notifications during Santa Ana conditions and the high fire season to alert employees and work crews of the potentially dangerous conditions and to remind them to operate outdoor equipment properly to reduce the chance of creating a spark that could result in a wildfire.

When hot work is necessary, it would be performed in compliance with the California Fire Code's Chapter 26, "Welding and other Hot Work," and the National Fire Protection Association's 51-B, "Fire Prevention During Welding, Cutting and other Hot Work." As stated above, City crews also take extra precautions during Santa Ana conditions and Red Flag warning days when operating any outdoor equipment to reduce the chance of creating a spark that could result in a wildfire.

Lastly, the City receives service notifications from the public and from the SDFD to maintain vegetation within and abutting storm water facilities that could be a fire hazard. In some instances, potential fire hazards or overgrown vegetation is brought to the City's attention by neighbors who live adjacent to storm water facilities. In other cases, the SDFD may determine that vegetation removal or management is required if it poses a safety or fire hazard. The City assesses the conditions of the site and determines if vegetation is creating an unsafe condition and/or if permits are required for removal. The removal of vegetation could potentially result in a reduced risk for wildfires in the long term by removing fuel loads from at-risk facilities.

The proposed MWMP would also not exacerbate fire risks due to slope, prevailing winds, or other factors, and no occupants are proposed as part of this project. The MWMP would not require the installation of power lines or utilities, which could exacerbate fire risks; however, maintenance of access roads may be required in some instances. As stated above, the City provides maintenance crews with fire safety measures in compliance with Chapter 14 of the California Fire Code, and gasoline-powered or diesel-powered machinery used during maintenance and repair activities would be equipped with standard exhaust controls and muffling devices that would also act as spark

arrestors. Compliance with safety precautions already in place would ensure no temporary or ongoing impacts would occur. Lastly, the intent, and primary objective, of the MWMP is to prevent flooding events and reduce the risk of downstream flooding to properties and structures.

Therefore, for the reasons described above, potential impacts due to exposure of people or structures to wildfires as a result of project-level maintenance under the MWMP would be **less than significant**.

Issue 2: Would any component of the project be located on a site that is included on a hazardous material sites list compiled pursuant to Government Code Section 6596.25 and, as a result, pose a significant hazard to the public or environment?

Project-Level Analysis (FMPs)

The analysis of hazardous materials included review of regulatory agency records to determine whether the facilities proposed for maintenance under the MWMP are located on a site included on a list of hazardous materials sites. The search of regulatory agency records was extended 2,000 feet beyond the facilities proposed for maintenance in compliance with the City's CEQA Significance Determination Thresholds and to capture adjacent sites that may have impacted a proposed maintenance site.

Hazardous materials/waste sites include automotive uses such as gas and service stations, dry cleaners, disposal sites, power generation sites, and industrial or manufacturing uses, among other uses.

Sites with Known Contamination

According to the database search conducted, a total of 880 sites were identified as having releases, or potential releases, of hazardous materials or contaminants located within 1,000 feet of MWMP facilities. Of the 880 sites identified as sites of concern, 23 are listed as sites with the greatest level of concern; these are located within 1,000 feet of MWMP facilities, as shown in Table 5.5-1. The list of sites in Table 5.5-1 includes both open and closed cases that have the greatest potential to pose a hazard to the public or the environment. Regulatory agencies treat open and active cases with more urgency due to the high-risk nature of potential contamination. Inactive cases are not treated with as much urgency and are unlikely to be considered high-risk. Closed cases are those in which regulatory agencies have approved final cleanup or otherwise determined the risk is sufficiently low to protect human health and the environment. Residual contamination is possible at both closed and inactive sites; however, these are considered lower risk than open/active sites. The remaining 857 sites are listed as closed, inactive, and/or not of concern with regards to severity or proximity to MWMP facilities.

Therefore, due to the severity of potential contamination, proximity to MWMP facilities, and up-gradient locations of the sites in relation to MWMP facilities, it is recommended that monitoring be conducted for activities (**EP-HAZ-1**) located within 200 feet of open/active sites or 100 feet of closed/inactive sites with known soil contamination, as identified in Table 5.5-1. In the event that hazardous materials or soils are identified, crews would stop work in the area and follow the HMCP (**EP-HAZ-2**). The HMCP would give guidance on maintaining worker safety, the proper identification and storage of impacted materials, and appropriate treatment of impacted media. Therefore, impacts would be **less than significant**, and no mitigation is required.

Sites with Unknown Contamination

Maintenance crews could encounter potentially hazardous materials or soils that are unknown or have not been previously identified. Crews would be trained to identify and recognize the signs of potentially hazardous materials, such as unmarked containers, stained soils, suspicious odors, or refuse from illegal dumping. Typical unidentified contamination consists of small, localized releases of materials into the soil that can be cleaned up through the removal of soils in the affected areas.

If contaminated soils are identified, in areas not known for soil contamination, based on visual observations or odors, crews would stop work in the area and immediately notify the on-call hazardous materials monitor. The hazardous materials monitor would assess the situation and take appropriate actions. The monitor would contact the City's Public Works Supervisor and Environmental Services Department (ESD); implement the HMCP; clear the work area; post signs and secure the area from unauthorized entry; and notify the appropriate regulatory agencies.

Soil suspected to be contaminated would be segregated, stockpiled, covered, sampled, and submitted to a laboratory for analysis. The stockpiled soil would be placed on a liner and maintained with appropriate storm water and emission controls, such as silt fences, straw waddles, and stockpile covers, to prevent run-off of potentially impacted sediment. The construction contractor would be responsible for securing the stockpiles at the end of each day. If the laboratory analytical results indicate that soil is either clean or impacts are below the thresholds established for non-hazardous material by the receiving waste disposal facility, it may be considered eligible for use as fill, aggregate, or other, prior to being transported for disposal as non-hazardous material to a Class III Landfill (e.g., Miramar Landfill). If the soil is determined to not be eligible for disposal as non-hazardous material at a Class III Landfill, it would be containerized and transported off site for proper disposal. Hazardous waste would be handled and transported by a licensed hazardous waste hauler.

The ESD or designated Public Works Supervisor properly trained in handling hazardous materials would be responsible for determining if maintenance activities can continue with the use of personal protective equipment or if a hazardous materials handler (i.e., Ocean Blue) would be

required to help address and remove the hazardous materials encountered. If unexpected hazardous materials are encountered, **EP-HAZ-3** would be implemented, and impacts would be **less than significant**.

Issue 3: Would the project result in hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within a quarter-mile of an existing or proposed school?

Project-Level Analysis (FMPs)

There are four existing schools located within a quarter-mile radius of a facility with known, potentially hazardous conditions, and is proposed for maintenance under the MWMP:

- South Chollas Creek Encanto Branch – Jamacha – Lobrico is located in proximity to Keiller Leadership Academy located at 7270 Lisbon Street, San Diego, California 92114
- South Chollas Creek – Euclid (1) is in proximity to Horton Elementary located at 5050 Guymon Street, San Diego, California 92102
- South Chollas Creek Encanto Branch – Jamacha (1) is in proximity to Evangeline Roberts Institute of Learning located at 6785 Imperial Avenue, San Diego, California 92114
- Murray Reservoir – Cowles Mountain (2) is in proximity to Springall Academy located at 6460 Boulder Lake Avenue, San Diego, California 92119

Maintenance and repair activities would involve the use of relatively small amounts of commonly used hazardous substances, such as fossil fuels, lubricants, and solvents. Accident prevention and containment are the responsibility of the maintenance crews. All hazardous materials would be handled in accordance with federal, state, and local laws that ensure the safe transport, use, storage, and disposal of hazardous materials.

In addition, the MWMP includes a Water Pollution Control Plan Guidance Document to allow for facility-specific *Water Pollution Control Plans* (WPCPs) to be developed for each MWMP facility prior to maintenance. Best management practices (BMPs) identified in the facility-specific WPCPs include erosion controls, sediment controls, non-storm-water discharge prevention, and materials and waste management. The WPCPs would require BMPs to be implemented during maintenance and repair activities to minimize the potential for hazardous materials release and ensure prompt cleanup in the event of such a release. The BMPs may include training maintenance crews in proper hazardous materials storage and handling procedures, emergency response, and cleanup procedures.

When maintenance activities or concrete repairs require the storage of hazardous materials, this would be done in compliance with the California EPA's DTSC requirements. Maintenance crews

would be responsible for the proper handling, packaging, transporting, and disposal of all hazardous waste brought on site or generated on site through incidental use, including aerosol spray cans, empty vehicle fluid containers, and cleaning cans. Hazardous materials would be stored in covered, leak-proof containers when not in use, away from storm drains and heavy traffic areas, and would be protected from rainfall infiltration and vandalism.

In areas with known soil contamination, as identified in Table 5.5-1, monitoring would be required for any maintenance activities that would be conducted, as described in **EP-HAZ-1**. If hazardous materials or soils are identified, crews would stop work in the area and an HMCP would be implemented. However, maintenance crews also have the potential to encounter potentially hazardous materials or soils that have not been previously identified. If contaminated soils are identified based on visual observations or odors in areas not known for soil contamination, crews would stop work in the area and immediately notify the on-call hazardous materials monitor, who would assess the situation and take appropriate actions, including contacting the City's Public Works Supervisor and ESD, implementing the HMCP (**EP-HAZ-2**), clearing the work area, posting signs and securing the area from unauthorized entry, and notifying the appropriate regulatory agencies.

According to the City's CEQA Guidelines, projects that involve the construction or alteration of a facility within one-quarter mile of a school that might emit hazardous or acutely hazardous air emissions, or that would handle acutely hazardous material or a mixture containing acutely hazardous material in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (i) of Section 25532 of the Health and Safety Code, could result in health or safety hazards to persons who attend or would be employed at the school.

Maintenance activities proposed under the MWMP would not involve, and does not anticipate, the handling of acutely hazardous materials in excess of state standard. As previously stated, the relatively limited use of common hazardous substances would be required to comply with existing and future hazardous materials laws and regulations for the transport, use, storage, and disposal of hazardous materials. In addition, the proposed maintenance and repair activities would include implementation of BMPs and standard operating procedures that would further reduce the potential for people or the environment to be exposed to hazardous materials. Maintenance activities have the potential to encounter known or unknown hazardous materials or contaminated soils that would need to be removed and transported to an acceptable facility. Therefore, proposed MWMP activities could result in the handling of acutely hazardous material or a mixture containing acutely hazardous materials in a quantity equal to or greater than the state threshold within one-quarter mile of a school. However, implementation of **EP-HAZ-2** would prevent potential impacts within one-quarter mile of a school, and impacts would be **less than significant**.

Issue 4: Would the project expose people to toxic substances through reasonably foreseeable conditions, such as pesticides and herbicides, some of which have long-lasting ability, applied to the soil during previous agricultural uses?

Project-Level Analysis (FMPs)

Smuggler's Gulch channel, located north of Monument Road in the Tijuana River Valley, is adjacent to a 35-acre parcel that is designated as Prime Farmland and a 30-acre parcel designated as Farmland of Local Importance. Several other facilities in the Otay Valley area, Miramar Canyon, and Los Peñasquitos Canyon are located adjacent to areas designated as Farmland of Statewide Importance, Farmland of Local Importance, or Grazing Land (California Department of Conservation 2018). Only a few drainage facilities are located on lands zoned for agricultural use (particularly in the Tijuana River Valley and Los Peñasquitos Canyon areas), and few agricultural operations currently exist in these areas (City of San Diego 2015).

MWMP maintenance activities have the potential to encounter soils that have been contaminated by previous agricultural use, or could expose people or the environment to hazardous conditions. However, an HMCP has been prepared that identifies areas of known hazardous materials concerns; prescribes sampling, if necessary; includes procedures for managing hazardous materials; and discusses health and safety measures (e.g., air monitoring) that should be implemented during MWMP maintenance activities in potentially impacted areas. Thus, with implementation of **EP-HAZ-1** through **EP-HAZ-3**, impacts would be **less than significant**.

5.5.7 PROGRAM-LEVEL ANALYSIS (OTHER MWMP ACTIVITIES)

Programmatic activities would include minor maintenance activities, changed conditions or new/substantially amended FMPs, new compensatory mitigation sites (see Section 5.3, Biological Resources), and emergency maintenance or repair. Under the MWMP, these additional programmatic activities are subject to the review and approval processes outlined in the MWMP.

All programmatic activities have the potential to result in hazards or hazardous conditions similar to what has been described above for project-level activities. Regarding Issue 1, the potential for wildfires, similar to project-level activities, fire containment and extinguishing equipment would be located on site and would be accessible during maintenance and repair activities. Maintenance crews would be trained to use fire suppression equipment and would not be permitted to idle vehicles at maintenance sites when not in use. When hot work is necessary, it would be performed in compliance with the California Fire Code's Chapter 26, "Welding and other Hot Work," and the National Fire Protection Association's 51-B, "Fire Prevention During Welding, Cutting and other Hot Work." As stated above, City crews also take extra precautions during Santa Ana conditions and Red Flag warning days when operating any outdoor equipment to reduce the chance of creating a spark that could result

in a wildfire. Therefore, because the mechanisms to reduce the risk of wildfire-related incidences are already in place, potential impacts from program-level activities would be **less than significant**.

Regarding Issue 2, it is recommended that monitoring be conducted (**EP-HAZ-1**) for programmatic activities that would occur within 200 feet of open/active sites and 100 feet of closed/inactive sties as determined by a future regulatory database search. If hazardous materials or soils are identified, crews would stop work in the area and the HMCP would be implemented (**EP-HAZ-2**). The HMCP would give guidance on maintaining worker safety, the proper identification and storage of impacted materials, and appropriate treatment of impacted media. Therefore, impacts would be **less than significant**.

In addition, similar to project-level activities, due to the potential for programmatic maintenance activities to come into contact with unexpected hazardous materials, implementation of **EP-HAZ-3** would be required to ensure impacts would be **less than significant**.

Regarding Issue 3, because programmatic maintenance activities have the potential to encounter known or unknown hazardous materials or contaminated soils, similar to project-level activities, which would require materials to be removed from the facility and transported to an acceptable facility, proposed MWMP programmatic activities could result in the handling of acutely hazardous material or a mixture containing acutely hazardous material in a quantity equal to or greater than the state threshold within one-quarter mile of a school. Nonetheless, with implementation of **EP-HAZ-2**, impacts would remain **less than significant**.

Regarding Issue 4, MWMP programmatic maintenance activities have the potential to encounter soils that have been contaminated by previous agricultural use, or could expose people or the environment to hazardous conditions. However, an HMCP has been prepared that identify areas of known hazardous materials concerns; prescribes sampling, if necessary; includes procedures for managing hazardous materials; and discusses health and safety measures (e.g., air monitoring) that should be implemented during MWMP maintenance activities in potentially impacted areas. With implementation of **EP-HAZ-1** and **EP-HAZ-2**, impacts would be **less than significant**.

5.5.8 SIGNIFICANCE OF IMPACT

As discussed under Issue 1, impacts due to exposure of people or structures to wildfires as a result of project- or program-level maintenance under the MWMP would be less than significant.

As discussed under Issue 2, there is potential for MWMP maintenance activities to come in contact with known contaminated sites and unknown contaminated sites listed pursuant to Government Code Section 6596.25; however, with implementation of **EP-HAZ-1** through **EP-HAZ-3**, impacts would be less than significant.

As discussed under Issue 3, maintenance activities have the potential to encounter unknown hazardous materials or contaminated soils that could possibly create a hazard within one-quarter mile of a school; however, implementation of **EP-HAZ-2** would ensure that impacts remain below a level of significance.

As discussed under Issue 4, because maintenance activities have the potential to encounter soils that have been contaminated by previous agricultural use, implementation of **EP-HAZ-1** and **EP-HAZ-2** would be required to ensure that impacts remain below a level of significance.

5.5.9 MITIGATION MEASURES

As explained in detail above, impacts would be less than significant and no mitigation measures are required.

5.5.10 SIGNIFICANCE OF IMPACT AFTER MITIGATION

With implementation of **EP-HAZ-1** through **EP-HAZ-3**, potential impacts would remain **less than significant**.

5.6 HISTORICAL, ARCHAEOLOGICAL, AND TRIBAL CULTURAL RESOURCES

5.6.1 INTRODUCTION

The following section describes the historical, archaeological, and tribal cultural resources setting of the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP); identifies the applicable regulatory framework; evaluates potential impacts associated with historical, archaeological, and tribal cultural resources that would result from the proposed MWMP; identifies mitigation measures, if necessary, to reduce the level of impact associated with implementation of the proposed MWMP; and identifies the level of significance after any mitigation.

Information in this section is from the *Historical Resources Inventory Report* for the MWMP prepared by Dudek in November 2019 and included as Appendix E. Information in this section is also from the *Cultural Resources Inventory/Evaluation Report* for the MWMP prepared by Dudek in November 2019 and included as Appendix F. Both of these reports include an evaluation of potential MWMP project facilities (i.e., 69 facility groups from the facility evaluation list used to select the 66 facility groups with proposed Facility Maintenance Plans [FMPs]). An area of potential effect (APE) was developed that encompasses the facilities and associated staging, access, loading, and stockpiling areas. Using this analysis, this section provides a project-level analysis of proposed MWMP FMPs (66 facility groups) and program-level analysis of proposed MWMP programmatic activities.

The *Historical Resources Inventory Report* is based on an examination of existing maps, records, and reports. Dudek conducted a records search in April 17, 2017, April 11, 2018, and September 14, 2018, of data obtained from the South Coastal Information Center (SCIC) at San Diego State University. The search encompassed the APE and a 0.25-mile buffer around the APE. The purpose of the records search is to identify any previously recorded resources that may be located in or adjacent to the study area and to identify previous studies in the vicinity. In addition to a review of previously prepared site records and reports, the records search also reviewed historical maps of the program area, the National Register of Historic Places (NRHP), the California Register of Historic Resources (CRHR), the California Historic Property Data File, and the lists of California State Historical Landmarks and California Points of Historical Interest. Dudek also conducted an examination of the MWMP facilities on aerial photographs and satellite images. Historic resource site visits of the potential MWMP project facilities were not conducted at this stage; should a facility require review as detailed in the Historical Resources Review Matrix, a site visit would be conducted as part of the review process.

The *Cultural Resources Inventory/Evaluation Report* is based on records search information provided by the SCIC at San Diego State University and sources previously identified for the *Historical Resources Inventory Report*, specifically historical maps of the program area, ethnographies, the

NRHP, the CRHR, the California Historic Property Data File, and the lists of California State Historical Landmarks and California Points of Historical Interest. Dudek also conducted an examination of the MWMP facilities on aerial photographs and satellite images and conducted site visits of MWMP facilities on October 23, 2017, November 14, 2017, April 16, 2018, and September 19, 2018.

5.6.2 EXISTING CONDITIONS

Historical, Archaeological, and Tribal Cultural Resources

Historical resources are physical features, both natural and constructed, that reflect past human existence and are of historical, archaeological, scientific, educational, cultural, architectural, aesthetic, or traditional significance. These resources may include such physical objects and features as archaeological sites and artifacts, buildings, groups of buildings, structures, districts, street furniture, signs, cultural properties, and landscapes. Historical resources in the San Diego region span a timeframe of at least the last 10,000 years and include both the prehistoric and historic periods. For purposes of this Environmental Impact Report (EIR), historical resources consist of archaeological sites and built-environment resources determined to be significant under the California Environmental Quality Act (CEQA).

Archaeological resources include prehistoric and historic locations or sites where human actions have resulted in detectable changes to the area. This can include changes in the soil and the presence of physical cultural remains. Archaeological resources can have a surface component, a subsurface component, or both. Historic archaeological resources are those originating after European contact. These resources may include subsurface features such as wells, cisterns, or privies. Other historic archaeological remains include artifact concentrations, building foundations, or remnants of structures.

A Tribal Cultural Resource is defined as a site, feature, place, cultural landscape, sacred place, or object that is of cultural value to a Native American tribe and is either on or eligible for listing on the national, State or a local historic register, or which the lead agency, at its discretion, chooses to identify as a Tribal Cultural Resource.

Natural Setting

The MWMP facilities are located throughout the City in San Diego County. The MWMP APE extends from its southwestern boundary in the Tijuana River Valley to its northeastern boundary in Rancho Bernardo. Elevation of the MWMP program area ranges from approximately 40 feet above mean sea level at facilities on the La Jolla shoreline to 500 feet above mean sea level at channels near the base of Cowles Mountain. The City's jurisdiction spans eight watersheds: San Dieguito River, Los Peñasquitos, Mission Bay, San Diego River, Pueblo San Diego, Sweetwater, Otay, and Tijuana River.

The MWMP facilities are primarily located in or immediately adjacent to developed, urbanized areas featuring residential, commercial, and industrial land uses. Recreational and/or open space uses also border MWMP facilities.

Cultural Setting

Evidence for continuous human occupation in the San Diego region spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad time frame have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. This research employs a common set of generalized terms used to describe chronological trends in assemblage composition from an archaeological perspective: Paleoindian (pre-5500 BC), Archaic (8000 BC–AD 500), Late Prehistoric (AD 500–1769), and Ethnohistoric (post-AD 1769). Native American aboriginal lifeways did not cease at European contact. "Protohistoric" refers to the chronological trend of continued Native American aboriginal lifeways at the cusp of the recorded historic period in the Americas. The tribal cultural context spans all of the archaeologically based chronologies further described below.

Pre-Contact and Ethnohistory – Tribal Cultural Context

The Kumeyaay (also known as the Ipay/Tipay) have roots that extend thousands of years in what is now San Diego County and northern Baja California. Pre-contact cultural sequences are locally characterized by the material culture recovered during archaeological investigations as early as the 1920s, and through early accounts of Native American life in the San Diego area, recorded as a means to salvage scientific knowledge of native lifeways. The best information of Native American lifeways, however, comes from the Kumeyaay themselves, from the stories and songs passed down through the generations. According to ethnographies based on interviews with local tribal elders, there are hundreds of words that describe a given landform, showing a close connection with nature. There are also stories associated with the land. The San Diego area in general, including Old Town, the San Diego River Valley, and the City as it existed as late as the 1920s, was known as *qapai* (meaning "uncertain"). According to Kumeyaay elder Jane Dumas, some native speakers referred to what is now Interstate 8 as *oon-ya*, meaning trail or road, describing one of the main routes linking the interior of San Diego with the coast. The Kumeyaay are the identified Most Likely Descendants for all Native American human remains found in the City.

Prehistoric and Historic Archaeological Context

Paleoindian (pre-550 BC)

Evidence for Paleoindian occupation in what is now coastal Southern California is tenuous, especially considering the fact that the oldest dated archaeological assemblages look nothing like the Paleoindian artifacts from the Great Basin. One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) derives from P-37-004669 (CA-SDI-4669), in La Jolla. A human burial from P-37-004669 was radiocarbon dated to 9,590–9,920 years before present (95.4% probability) (Hector 2007). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of groundstone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of groundstone tools. Prime examples of this pattern are sites that were studied by Davis (1978) on China Lake Naval Air Weapons Station near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades).

Turning back to coastal Southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional notions of mobile hunter–gatherers traversing the landscape for highly valued prey. Evidence for the latter—that is, typical Paleoindian assemblages—may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (pre-7500 BP) that submerged as much as 1.8 kilometers (1.1 miles) of the San Diego coastline. If this were true, however, it would also be expected that such sites would be located on older landforms near the current coastline. Some sites, such as P-37-000210 (CA-SDI-210) along Agua Hedionda Lagoon, contained stemmed points similar in form to Silver Lake and Lake Mojave projectile points (pre-8000 BP) that are commonly found at sites in California's high desert (Basgall and Hall 1990). P-37-000210 yielded one corrected radiocarbon date of 8520–9520 BP (Warren et al. 2004). However, sites of this nature are extremely rare and cannot be separated from large numbers of milling tools that intermingle with old projectile point forms.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex (P-37-000149; CA-SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between 10,365 and 8200 BC (Warren et al. 2004, p. 26). Termed San Dieguito (Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (Warren 1964, 1968). Despite the unique assemblage composition, the definition of San

Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos' interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in Southern California deserts, wherein hunting-related tools are replaced by processing tools during the early Holocene (Basgall and Hall 1993).

Archaic (8000 BC–AD 500)

The more than 1500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in the San Diego region. If San Dieguito is the only recognized Paleoindian component in the San Diego region, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the San Diego region (Hale 2001, 2009).

The Archaic pattern is relatively easy to define with assemblages that consist primarily of processing tools: millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the San Diego region, with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little

change in assemblage composition occurs until the bow and arrow is adopted at around AD 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remains low. After the bow is adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decrease in proportion relative to expedient, unshaped groundstone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complimented only by the addition of the bow and ceramics.

Late Prehistoric (AD 500–1769)

The period of time following the Archaic and prior to Ethnohistoric times (AD 1769) is commonly referred to as the Late Prehistoric (Rogers 1945; Wallace 1955; Warren et al. 2004). However, several other subdivisions continue to be used to describe various shifts in assemblage composition, including the addition of ceramics and cremation practices. In northern San Diego County, the post-AD 1450 period is called the San Luis Rey Complex (True 1980), while the same period in southern San Diego County is called the Cuyamaca Complex and is thought to extend from AD 500 until Ethnohistoric times (Meighan 1959). Rogers (1929) also subdivided the last 1,000 years into the Yuman II and III cultures, based on the distribution of ceramics. Despite these regional complexes, each is defined by the addition of arrow points and ceramics, and the widespread use of bedrock mortars. Vagaries in the appearance of the bow and arrow and ceramics make the temporal resolution of the San Luis Rey and Cuyamaca complexes difficult. For this reason, the term Late Prehistoric is well-suited to describe the last 1,500 years of prehistory in the San Diego region.

Temporal trends in socioeconomic adaptations during the Late Prehistoric period are poorly understood. This is partly due to the fact that the fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points and large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces; bowl mortars are rare in the San Diego region. Some argue that the Ethnohistoric intensive acorn economy extends as far back as AD 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred prior to AD 1400. True (1980) argued that acorn processing and ceramic use in the northern San Diego region did not occur until the San Luis Rey pattern emerged after approximately AD 1450. For southern San Diego County, the picture is less clear. The Cuyamaca Complex is the southern counterpart to the San Luis Rey pattern, however, and is most recognizable after AD 1450 (Hector 1984). Similar to True (1980), Hale (2009) argued that an acorn economy did not appear in the southern San Diego region until just prior to Ethnohistoric times, and that when it did occur, a major shift in social organization followed.

Ethnohistoric (post-AD 1769)

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the San Diego region come predominantly from European merchants, missionaries, military personnel, and explorers. These brief, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions in the San Diego region brought more extensive documentation of Native American communities, though these groups did not become the focus of formal and in-depth ethnographic study until the early twentieth century (Boscana 1846; Fages 1937; Geiger and Meighan 1976; Harrington 1934; Laylander 2000). The principal intent of these researchers was to record the pre-contact, culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as "salvage ethnography," was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his "memory culture" approach (Lightfoot 2005, p. 32) by recording languages and oral histories within the San Diego region. Kroeber's (1925) assessment of the impacts of Spanish missionization on local Native American populations supported Kumeyaay traditional cultural continuity (Kroeber 1925, p. 711):

> San Diego was the first mission founded in upper California; but the geographical limits of its influence were the narrowest of any, and its effects on the natives comparatively light. There seem to be two reasons for this: first, the stubbornly resisting temper of the natives; and second, a failure of the rigorous concentration policy enforced elsewhere.

In some ways this interpretation led to the belief that many California Native American groups simply escaped the harmful effects of contact and colonization all together. This, of course, is untrue. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities. These accounts supported, and were supported by, previous governmental decisions which made San Diego County the location of more federally recognized tribes than anywhere else in the United States: 18 tribes on 18 reservations that cover more than 116,000 acres (CSP 2009).

The traditional cultural boundaries between the Luiseño and Kumeyaay Native American tribal groups have been well defined by anthropologist Florence C. Shipek (Shipek 1993, as summarized in County of San Diego 2007, p. 6):

> In 1769, the Kumeyaay national territory started at the coast about 100 miles south of the Mexican border (below Santo Tomas), thence north to the coast at the drainage divide south of the San Luis Rey River including its tributaries. Using the U.S. Geological Survey topographic maps, the boundary with the Luiseño then follows that divide inland. The boundary continues on the divide separating Valley Center from Escondido and then up along Bear Ridge to the 2240 contour line and then north across the divide between Valley Center and Woods Valley up to the 1880-foot peak, then curving around east along the divide above Woods Valley.

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja California Sur to the southern Oregon state border at the time of Spanish contact (Johnson and Lorenz 2006, p. 34). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007, p. 71). Based on the MWMP program area location, the Native American inhabitants of the region would have likely spoken both the Ipai and Tipai language subgroup of the Yuman language group. Ipai and Tipai, spoken respectively by the northern and southern Kumeyaay communities, are mutually intelligible. For this reason, these two are often treated as dialects of a larger Kumeyaay tribal group rather than as distinctive languages, though this has been debated (Laylander 2010; Luomala 1978).

Victor Golla has contended that one can interpret the amount of variability within specific language groups as being associated with the relative "time depth" of the speaking populations (Golla 2007, p. 80) A large amount of variation within the language of a group represents a greater time depth then a group's language with less internal diversity. One method that he has employed is by drawing comparisons with historically documented changes in Germanic and Romantic language groups. Golla has observed that the "absolute chronology of the internal diversification within a language family" can be correlated with archaeological dates (Golla 2007, p. 71). This type of interpretation is modeled on concepts of genetic drift and gene flows that are associated with migration and population isolation in the biological sciences.

Golla suggested that there are two language families associated with Native American groups who traditionally lived throughout the San Diego County region. The northern San Diego tribes have traditionally spoken Takic languages that may be assigned to the larger Uto–Aztecan family (Golla 2007, p. 74). These groups include the Luiseño, Cupeño, and Cahuilla. Golla has interpreted the amount of internal diversity within these language-speaking communities to reflect a time depth of

approximately 2,000 years. Other researchers have contended that Takic may have diverged from Uto–Aztecan ca. 2600 BC–AD 1, which was later followed by the diversification within the Takic speaking San Diego tribes, occurring approximately 1500 BC–AD 1000 (Laylander 2010). The majority of Native American tribal groups in southern San Diego region have traditionally spoken Yuman languages, a subgroup of the Hokan Phylum. Golla has suggested that the time depth of Hokan is approximately 8,000 years (Golla 2007, p. 74). The Kumeyaay tribal communities share a common language group with the Cocopah, Quechan, Maricopa, Mojave, and others to east, and the Kiliwa to the south. The time depth for both the Ipai (north of the San Diego River, from Escondido to Lake Henshaw) and the Tipai (south of the San Diego River, the Laguna Mountains through Ensenada) is approximated to be 2,000 years at the most. Laylander has contended that previous research indicates a divergence between Ipai and Tipai to have occurred approximately AD 600–1200 (Laylander 1985). Despite the distinct linguistic differences between the Takic-speaking tribes to the north, the Ipai-speaking communities in central San Diego, and the Tipai southern Kumeyaay, attempts to illustrate the distinctions between these groups based solely on cultural material alone have had only limited success (Pigniolo 2004; True 1966).

The Kumeyaay generally lived in smaller family subgroups that would inhabit two or more locations over the course of the year. While less common, there is sufficient evidence that there were also permanently occupied villages, and that some members may have remained at these locations throughout the year (Owen 1965; Shipek 1982, 1985; Spier 1923). Each autonomous tribelet was internally socially stratified, commonly including higher status individuals such as a tribal head (Kwaay Pay), shaman (Kuseyaay), and general members with various responsibilities and skills (Shipek 1982). Higher-status individuals tended to have greater rights to land resources, and owned more goods, such as shell money and beads, decorative items, and clothing. To some degree, titles were passed along family lines; however, tangible goods were generally ceremonially burned or destroyed following the deaths of their owners (Luomala 1978). Remains were cremated over a pyre and then relocated to a cremation ceramic vessel that was placed in a removed or hidden location. A broken metate was commonly placed at the location of the cremated remains, with the intent of providing aid and further use after death. At maturity, tribal members often left to other bands in order to find a partner. The families formed networks of communication and exchange around such partnerships.

Areas or regions, identified by known physical landmarks, could be recognized as band-specific territories that might be violently defended against use by other members of the Kumeyaay. Other areas or resources, such as water sources and other locations that were rich in natural resources, were generally understood as communal land to be shared amongst all the Kumeyaay (Luomala 1978). The coastal Kumeyaay exchanged a number of local goods, such as seafood, coastal plants, and various types of shell for items including acorns, agave, mesquite beans, gourds, and other more interior plants of use (Luomala 1978). Shellfish would have been procured from three primary environments, including the sandy open coast, bay and lagoon, and rocky open coast. The availability of these marine resources

changed with the rising sea levels, siltation of lagoon and bay environments, changing climatic conditions, and intensity of use by humans and animals (Gallegos and Kyle 1988; Pigniolo 2005; Warren 1964). Shellfish from sandy environments included *Donax*, *Saxidomus*, *Tivela*, and others. Rocky coast shellfish dietary contributions consisted of *Pseudochama*, *Megastraea*, *Saxidomus*, *Protothaca*, *Megathura*, *Mytilus*, and others. Lastly, the San Diego Bay environment would have provided *Argopecten*, *Chione*, *Ostrea*, *Neverita*, *Macoma*, *Tagelus*, and others. Although marine resources were obviously consumed, terrestrial animals and other resources likely provided a large portion of sustenance. Game animals consisted of rabbits, hares (Leporidae), birds, ground squirrels, woodrats (*Neotoma* sp.), deer, bears, mountain lions (*Puma concolor*), bobcats (*Lynx rufus*), coyotes (*Canis latrans*), and others. In lesser numbers, reptiles and amphibians may have been consumed.

A number of local plants were used for food and medicine. These were exploited seasonally, and were both traded between regional groups and gathered as a single triblet moved between habitation areas. Some of the more common of these that might have been procured locally or as higher elevation varieties would have included buckwheat (*Eriogonum fasciculatum*), agave, yucca, lemonade sumac (*Rhus integrifolia*), sugarbush (*Rhus ovata*), sage scrub (*Artemisia californica*), yerba santa (*Eriodictyon* sp.), sage (*Salvia* sp.), Ephedra, prickly pear (*Opuntia* sp.), mulefat (*Baccharis salicifolia*), chamise (*Adenostoma fasciculatum*), elderberry (*Sambucus nigra*), oak (*Quercus* sp.), willow (*Salix* sp.), and Juncus grass among many others (Wilken 2012).

Historic Period (post-AD 1542)

San Diego history can be divided into the Spanish Period (1769–1821), Mexican Period (1821–1846) and American Period (1846–Present). European activity in the region began as early as AD 1542, when Juan Rodríguez Cabrillo landed in San Diego Bay. Sebastián Vizcaíno returned in 1602, and it is possible that there were subsequent contacts that went unrecorded. These brief encounters made the local native people aware of the existence of other cultures that were technologically more complex than their own. Epidemic diseases may also have been introduced into the region at an early date, either by direct contacts with the infrequent European visitors or through waves of diffusion emanating from native peoples farther to the east or south (Preston 2002). It is possible, but as yet unproven, that the precipitous demographic decline of native peoples had already begun prior to the arrival of Gaspar de Portolá and Junípero Serra in 1769.

The Spanish colonization of Alta California began in 1769 with the founding of Mission San Diego de Alcalá by Father Junípero Serra. Concerns over Russian and English interests in California motivated the Spanish government to send an expedition of soldiers, settlers and missionaries to occupy and secure the northwestern borderlands of New Spain through the establishment of a Presidio, Mission, and Pueblo. The Spanish explorers first camped on the shore of the San Diego Bay in the area that is now downtown San Diego. Lack of water at this location, however, led to moving the

camp on May 14, 1769, to a small hill closer to the San Diego River and near the Kumeyaay village of *Kosti/Cosoy/Kosaii/Kosa'aay*. Father Junípero Serra arrived in July of the same year to find the Presidio serving mostly as a hospital. Shortly thereafter, the Spanish built a primitive mission and presidio structure on the hill near the river.

Bad feelings soon developed between the native Kumeyaay and the soldiers, resulting in construction of a stockade which, by 1772, included barracks for the soldiers, a storehouse for supplies, a house for the missionaries and the chapel, which had been improved. The log and brush huts were gradually replaced with buildings made of adobe bricks. Flat earthen roofs were eventually replaced by pitched roofs with rounded roof tiles. Clay floors were eventually lined with fired brick.

In August 1774, the Spanish missionaries moved the Mission San Diego de Alcalá to its present location 6 miles up the San Diego River valley (modern Mission Valley) near the Kumeyaay village of Nipaguay. Begun as a thatched chapel and compound built of willow poles, logs and tules, the new Mission was sacked and burned in the Kumeyaay uprising of November 5, 1775. The first adobe chapel was completed in October 1776 and the present church was begun the following year. A succession of building programs through 1813 resulted in the final rectilinear plan that included the church, bell tower, sacristy, courtyard, residential complex, workshops, corrals, gardens and cemetery. Orchards, reservoirs and other agricultural installations were built to the south on the lower San Diego River alluvial terrace and were irrigated by a dam and aqueduct system. The initial Spanish occupation and mission system brought about profound changes in the lives of the Kumeyaay people. Substantial numbers of the coastal Kumeyaay were forcibly brought into the mission or died from introduced diseases.

As early as 1791, Presidio commandants in California were given the authority to grant small house lots and garden plots to soldiers and their families and sometime after 1800, soldiers and their families began to move down the hill near the San Diego River. Historian William Smythe noted that Don Blas Aguilar, who was born in 1811, remembered at least 15 such grants below Presidio Hill by 1821, of which only five of these grant lands within the boundaries of what would become Old Town had houses in 1821. These included the retired commandant Francisco Ruiz Adobe (now known as the Carrillo Adobe), another building later owned by Henry Fitch on Calhoun Street, the Ybanes and Serrano houses on Juan Street near Washington Street, and a small adobe house on the main plaza owned by Juan Jose Maria Marron.

In 1822 the political situation changed as Mexico won its independence from Spain and San Diego became part of the Mexican Republic. The Mexican Government opened California to foreign trade; began issuing private land grants in the early 1820s, creating the rancho system of large agricultural estates; secularized the Spanish missions in 1833; and oversaw the rise of the civilian pueblo. By 1827, as many as 30 homes existed around the central plaza and in 1835, Mexico granted San Diego official

pueblo (town) status. At this time the town had a population of nearly 500 residents, later reaching a peak of roughly 600. By 1835 the Presidio, once the center of life in Spanish San Diego, had been abandoned and lay in ruins. Mission San Diego de Alcalá fared little better. The town and the ship landing area at La Playa were now the centers of activity in Mexican San Diego. However, the new Pueblo of San Diego did not prosper as did some other California towns during the Mexican Period.

The secularization in San Diego County triggered increased Native American hostilities against the Californios during the late 1830s. The attacks on outlying ranchos, along with unstable political and economic factors helped San Diego's population decline to around 150 permanent residents by 1840. San Diego's official Pueblo status was removed by 1838, and it was made a subprefecture of the Los Angeles Pueblo. When the Americans took over after 1846, the situation had stabilized somewhat, and the population had increased to roughly 350 non-Native American residents. The Native American population continued to decline, as Mexican occupation brought about continued displacement and acculturation of Native American populations.

The American Period began in 1846 when United States military forces occupied San Diego and this period continues today. When United States military forces occupied San Diego in July 1846, the town's residents split on their course of action. Many of the town's leaders sided with the Americans, while other prominent families opposed the United States invasion. In December 1846, a group of Californios under Andres Pico engaged United States Army forces under General Stephen Kearney at the Battle of San Pasqual and inflicted many casualties. However, the Californio resistance was defeated in two small battles near Los Angeles and effectively ended by January 1847. The Americans assumed formal control with the Treaty of Guadalupe-Hidalgo in 1848 and introduced Anglo culture and society, American political institutions and especially American entrepreneurial commerce. In 1850, the Americanization of San Diego began to develop rapidly.

On February 18, 1850, the California State Legislature formally organized San Diego County. The first elections were held at San Diego and La Playa on April 1, 1850, for county officers. San Diego grew slowly during the next decade. San Diegans attempted to develop the town's interests through a transcontinental railroad plan and the development of a new town closer to the San Diego Bay. The failure of these plans, added to a severe drought which crippled ranching and the onset of the Civil War, left San Diego as a remote frontier town. The troubles led to an actual drop in the town's population from 650 in 1850 to 539 in 1860. Not until land speculator and developer Alonzo Horton arrived in 1867 did San Diego begin to develop fully into an active American town.

Alonzo Horton's development of a New San Diego (modern downtown) in 1867 began to swing the community focus away from Old Town and began the urbanization of San Diego. Expansion of trade brought an increase in the availability of building materials. Wood buildings gradually replaced adobe structures. Some of the earliest buildings to be erected in the American Period were "pre-fab"

houses that were built on the east coast of the United States and shipped in sections around Cape Horn and reassembled in San Diego. Development spread from downtown based on a variety of factors, including the availability of potable water and transportation corridors. Factors such as views and access to public facilities affected land values, which in turn affected the character of neighborhoods that developed. During the Victorian Era of the late 1800s and early 1900s, the areas of Golden Hill, Uptown, Banker's Hill and Sherman Heights were developed. Examples of the Victorian Era architectural styles remain in these communities, as well as in Little Italy, which developed at the same time. At the time downtown was being built, there began to be summer cottage/retreat development in what are now the Beach communities and La Jolla area. The early structures in these areas were not of substantial construction; they were primarily for temporary vacation housing.

Development also spread to the Greater North Park and Mission Hills areas during the early 1900s. The neighborhoods were built as small lots, a single lot at a time; there was not large tract housing development of those neighborhoods. It provided affordable housing away from the downtown area, and development expanded as transportation improved. Barrio Logan began as a residential area, but because of proximity to rail freight and shipping freight docks, the area became more mixed with conversion to industrial uses. This area was more suitable to industrial uses because land values were not as high; topographically the area is more level, and it is not as interesting in terms of views as are the areas north of downtown. Various ethnic groups settled in the area because of the availability of land ownership.

San Ysidro began to be developed at about the turn of the twentieth century. The early settlers were followers of the Little Landers movement. There, the pattern of development was designed to accommodate small plots of land for each homeowner to farm as part of a farming-residential cooperative community. Nearby Otay Mesa–Nestor began to be developed by farmers of Germanic and Swiss background. Some of the prime citrus groves in California were in the Otay Mesa–Nestor area; in addition, there were grape growers of Italian heritage who settled in the Otay River Valley and tributary canyons and produced wine for commercial purposes.

San Diego State University was established as the State Normal School in the 1920s, followed by development of the College and Navajo communities. . Farming and ranching was active in Mission Valley until the middle portion of the twentieth century, when these uses were converted to commercial and residential uses. Dairy farms and chicken ranches could be found adjacent to the San Diego River where motels, restaurants, office complexes, and regional shopping malls exist today. There was little development north of the San Diego River until Linda Vista was developed as military housing in the 1940s. The federal government improved public facilities and extended water and sewer pipelines to the area. From Linda Vista, development spread north of Mission Valley to the Clairemont Mesa and Kearny Mesa areas with commercial, mixed-use and residential uses on moderate-size lots.

Tierrasanta, previously owned by the U.S. Navy, was developed in the 1970s and was one of the first planned-unit developments with segregation of uses. Tierrasanta and many of the communities that have developed since, such as Rancho Peñasquitos and Rancho Bernardo, represent the typical development pattern in San Diego in the last 25 to 30 years: uses are well segregated, with commercial uses located along the main thoroughfares and residential uses located in between. Industrial uses are located in planned industrial parks.

Examples of the following architectural styles from San Diego's historic periods remain: Spanish Colonial, Pre-Railroad New England, National Vernacular, Victorian Italianate, Stick, Queen Anne, Colonial Revival, Neoclassical, Shingle, Folk Victorian, Mission, Craftsman, Prairie, French Eclectic, Italian Renaissance, Spanish Eclectic, Egyptian Revival, Tudor Revival, Modernistic, and International.

Native American Heritage Commission Sacred Lands File Search and Tribal Correspondence

A search of the Native American Heritage Commission (NAHC) Sacred Lands File was conducted for the MWMP APE on April 19, 2017 (see Appendix F, Cultural Resources Inventory/Evaluation Report for the MWMP). The NAHC results letter indicated the presence of tribal cultural resources (TCRs) within the MWMP APE located on the Imperial Beach and Point Loma Quadrangles. Specific locations and details on the type of resources were not provided. Additionally, the NAHC response letter included a list of Native American tribes that should be contacted for information about where resources may intersect the MWMP APE to help guide communications with tribal groups and representatives that maintain specific traditional associations with particular sections of the MWMP APE during the environmental review process.

Five responses were received (see Appendix F, Cultural Resources Inventory/Evaluation Report for the MWMP). Victoria Harvey, Archaeological Monitoring Coordinator with the Agua Caliente Band of Cahuilla Indians, claimed that the MWMP APE is not in the Tribe's traditional use area. They have chosen to defer consultation to other tribes in the area. Vincent Whipple, Cultural Resources Representative for the Rincon Band of Luiseño Indians, stated that the portion of the MWMP APE in Escondido is within the Aboriginal Territory of the Luiseño People; however, the Tribe provided no new information regarding TCRs within the MWMP APE. Ray Teran, Resource Manager with the Viejas Band of Kumeyaay Indians, stated that the proposed MWMP site has cultural significance to Viejas and requested that a Kumeyaay cultural monitor be present for ground-disturbing activities associated with the MWMP. Lisa Cumper, Tribal Historic Preservation Officer for the Jamul Indian Village, stated that there are TCRs in Imperial Beach and recommended Native American monitoring in the area. Merri Lopez-Keifer, chief legal counsel for the San Luis Rey Band of Mission Indians, responded to the outreach letter that the tribe is aware of TCRs in proximity to the proposed MWMP APE, and recommended the presence of a Luiseño Native American monitor during ground-disturbing activities. Ms. Lopez-Keifer also requested that Dudek contact the tribe's Cultural Resource Manager, Cami

Mojado, who, when contacted by phone, requested greater details concerning the proposed MWMP components near Escondido. Additional information was provided to Ms. Mojado via email describing the MWMP facilities with attached historical aerials that demonstrate the previous impacts to the area. Ms. Mojado then requested previously conducted cultural reports for the Escondido portion of the MWMP APE. Dudek sent Ms. Mojado site records and a survey report for the area. After a few weeks, a follow-up email was sent to Ms. Mojado inquiring if she had any additions concerning the MWMP APE. To date, Ms. Mojado has not responded.

Native American Consultation

Under CEQA, the lead agency is responsible for conducting government-to-government consultation with culturally affiliated Native American Tribes in accordance with Assembly Bill (AB) 52.

Cultural Resources

Prehistoric and Historic Archaeological Resources

Existing maps, records, and reports were reviewed to ensure that the MWMP avoided potential impacts to previously recorded cultural resources. The search of the SCIC records identified 347 cultural resources within 0.25 miles of the APE. Of the 347 identified, 31 archaeological resources fall within the MWMP APE (see Table 5.6-1, Cultural Resources in MWMP Area of Potential Effect). The prehistoric sites include eight artifact scatters, one shell scatter, a collection of hearths, and six habitation sites. The historic-period sites include a road; a ranch or homestead complex; a redwood flume segment; a locally designated pottery site that includes a kiln, two single-family residences, a pottery production building, and a drying shed; and four refuse dumps. Six of the resources have been previously evaluated and are recommended eligible for listing on the CRHR or NRHP. Two of the resources have been listed on the City of San Diego Historical Resources Register, five have been recommended not eligible or not possessing further research potential, and three sites have been destroyed. The remaining resources have not been evaluated.

Table 5.6-1
Cultural Resources in MWMP Area of Potential Effect

Label	Trinomial	Intersects	Era	Description	Evaluation Status
P-37-000580	CA-SDI-580	Yes	P	Prehistoric artifact scatter	Not evaluated
P-37-000581	CA-SDI-581	Yes	P	Prehistoric artifact scatter	Not evaluated
P-37-001010	CA-SDI-1010	Within 100 feet	P	Lithic scatter	No longer extant

Table 5.6-1
Cultural Resources in MWMP Area of Potential Effect

Label	Trinomial	Intersects	Era	Description	Evaluation Status
P-37-002611	CA-SDI-2611	Within 100 feet	P	Lithic artifact scatter	Not evaluated
P-37-004609	CA-SDI-4609	Yes	P	Prehistoric village	Recommended eligible
P-37-005017	CA-SDI-5017	Yes	P	Prehistoric habitation site	Recommended eligible
P-37-005605	CA-SDI-5605	Yes	P	Lithic scatter	Not evaluated
P-37-007208	CA-SDI-7208	Yes	P	Prehistoric lithic artifact scatter	Not evaluated
P-37-010669	CA-SDI-10669	Yes	P	Prehistoric lithic and shell scatter	Does not possess further research potential
P-37-011055	CA-SDI-11055	Within 100 feet	P	Prehistoric hearth and artifact scatter	Not evaluated
P-37-011165	CA-SDI-11165	Yes	P	Prehistoric habitation site	Not evaluated
P-37-012091	CA-SDI-12091	Yes	P	Prehistoric temporary camp and shell midden	Not evaluated
P-37-012337	CA-SDI-12337	Within 100 feet	P	Artifact scatter	Determined not eligible
P-37-013072	CA-SDI-13072	Yes	H	Historical residential/ranch complex	Not evaluated
P-37-013486	CA-SDI-13486	Yes	P	Prehistoric shell and lithic scatter	Not evaluated
P-37-013527	CA-SDI-13527	Yes	P	Prehistoric shell and lithic scatter	Not evaluated
P-37-016029	CA-SDI-14599	Yes	P	Prehistoric habitation site	No longer extant
P-37-016297	CA-SDI-14789H	Within 100 feet	H	Refuse scatter	No longer extant
P-37-016659	—	Within 100 feet	H	San Diego Flume System	Recommended eligible
P-37-017028	CA-SDI-15067	Within 100 feet	H	Refuse pit	Not evaluated
P-37-018890	CA-SDI-15737	Within 100 feet	H	Refuse scatter	Not evaluated
P-37-025706	CA-SDI-17099	Yes	P	Prehistoric shell scatter	Not evaluated

Table 5.6-1
Cultural Resources in MWMP Area of Potential Effect

Label	Trinomial	Intersects	Era	Description	Evaluation Status
P-37-025853	CA-SDI-17203	Yes	P	Prehistoric habitation site	Recommended eligible
P-37-030933	—	Within 100 feet	H	Isolated cow bone	Not eligible
P-37-031095	CA-SDI-19721	Yes	P	Prehistoric hearth features	Not evaluated
P-37-031491		Yes	H	Otay Mesa Road	Not evaluated
P-37-031737	CA-SDI-20159	Yes	H	Historical refuse dump	Evaluated Designated
P-37-034479	—	Yes	H	Pedestrian bridge	Recommended not eligible
P-37-034756	CA-SDI-21620	Within 100 feet	H	Kiln, two single-family residences, pottery production building, drying shed	Locally designated, HRB #108
P-37-035162	—	Within 100 feet	H	Memorial park	Recommended not eligible
P-37-036415	—	Within 100 feet	H	Distribution line	Not evaluated

MWMP = *Municipal Waterways Maintenance Plan*; P = prehistoric; H = historic

As identified in Table 5.6-1, the archival review identified 31 cultural resources, including prehistoric and historic archaeological and tribal resources, located within or in proximity to the MWMP APE. From this information, Dudek determined that not all resources within the APE would require a site visit. Facilities that traverse highly sensitive areas did not require a site visit to determine that the facilities would require further cultural review. Likewise, aerial photographs revealed that development has destroyed some resources within the APE, so a site visit was not required. This review enabled Dudek to identify 11 of the 31 recorded cultural resources that intersect with MWMP facilities that may not have been completely disturbed (see Table 5.6-2, Evaluation of Cultural Resources within the MWMP APE). On October 20 and November 14, 2017; April 16, 2018; and September 19, 2018, a Dudek archaeologist visited these MWMP facilities to determine the cultural sensitivity and the extent of previous ground disturbance. Clint Linton of Red Tail Environmental aided in the determination of culturally sensitive areas within the MWMP APE. Already familiar with the MWMP facilities, Mr. Linton determined that his presence was not necessary during the site visits to assess possible impacts to TCRs. The condition of each site and its relationship to the MWMP APE is described below. Any updates to existing California Department of Parks and

Recreation (DPR) site records can be found in Confidential Appendix D of Appendix F, Cultural Resource Inventory/Evaluation Report. Resource location maps showing the resource proximity to the APE are included in a confidential appendix to the Cultural Resource Inventory/Evaluation Report, and not available for public review.

Table 5.6-2
Evaluation of Cultural Resources within the MWMP APE

Site Number	Trinomial	Intersects APE	Era	Description	MWMP Facility	Evaluation Status
P-37-005017	CA-SDI-005017	Yes	P	Prehistoric habitation site	Mission Bay – MBHS – PB/Olney-1	Recommended eligible
P-37-007208	CA-SDI-007208	Yes	P	Prehistoric lithic artifact scatter	Tijuana River – Cactus-1&2, Siempre Viva-1 and La Media-1	Not evaluated
P-37-011165	CA-SDI-011165	Yes	P	Prehistoric habitation site	South Chollas Creek – Federal-1	Not evaluated
P-37-012091	CA-SDI-012091	Yes	P	Prehistoric temporary camp and shell midden	Chollas Creek – National-1	Not evaluated
P-37-016029	CA-SDI-014599	Yes	P	Prehistoric habitation site	South Chollas Creek – Imperial-1	Destroyed
P-37-025706	CA-SDI-017099	Yes	P	Prehistoric shell scatter	South Chollas Creek – Alpha-1	Not evaluated
P-37-025853	CA-SDI-017203	Yes	P	Prehistoric habitation site	Chollas Creek – National-1	Recommended eligible
P-37-031095	CA-SDI-019721	Yes	P	Prehistoric hearth features	Los Peñasquitos – 5/805 Fwys-1	Not evaluated
P-37-031491	—	Yes	H	Otay Mesa Road	Tijuana River – Smythe-1	Not evaluated
P-37-031737	CA-SDI-020159	Yes	H	Historical refuse dump	Torrey – Torrey Pines-1	Evaluated Designated
P-37-034756	CA-SDI-021620	Within 100 feet	H	Historical pottery kiln	Torrey – Torrey Pines-1	Evaluated Designated

MWMP = *Municipal Waterways Maintenance Plan*; APE = area of potential effect; P= prehistoric; H = historic; MBHS = Mission Bay High School; PB = Pacific Beach

A detailed discussion of the 11 resources listed in Table 5.6-2 is provided in Appendix F, Cultural Resources Inventory/Evaluation Report.

Built Environment

The SCIC records search identified 15 historic built-environment resources within the APE (see Table 5.6-3, Historical Resources in Area of Potential Effect). The historic built-environment resources consist of two railroad tracks; a road; a bridge; a ranch or homestead complex; a redwood flume segment; a sidewalk stamp; a locally designated pottery site that includes a kiln, two single-family residences, a pottery production building, and a drying shed; and seven historic addresses. Two of the resources were previously evaluated and recommended eligible for listing in the CRHR or NRHP, one was listed on the City's Register of Historical Resources, one was determined not eligible, one was recommended not eligible, and the remaining historical resources were not evaluated.

Table 5.6-3
Historical Resources in Area of Potential Effect

Label	Trinomial	Intersects	Era	Description	Evaluation Status
P-37-013072	CA-SDI-13072	Yes	H	Historical residential/ranch complex	Not evaluated
P-37-016659		Within 100 feet	H	San Diego Flume System	Recommended eligible
P-37-024739	CA-SDI-16385	Yes	H	BNSF Railway	Recommended not eligible
P-37-025680		Yes	H	Union Pacific Railroad	Determined not eligible
P-37-025924	CA-SDI-17240	Yes	H	Hollister Street Bridge	Recommended eligible
P-37-031491		Yes	H	Otay Mesa Road	Not evaluated
P-37-033516		Within 100 feet	H	Sidewalk stamp	Not evaluated
P-37-034756	CA-SDI-21620	Within 100 feet	H	Kiln, two single-family residences, pottery production building, drying shed	Locally designated, HRB #108
3715 India St		Within 100 feet	H	Historic address	Not evaluated
3717 India St		Within 100 feet	H	Historic address	Not evaluated
3731 India St		Within 100 feet	H	Historic address	Not evaluated

Table 5.6-3
Historical Resources in Area of Potential Effect

Label	Trinomial	Intersects	Era	Description	Evaluation Status
3735 India St		Within 100 feet	H	Historic address	Not evaluated
3737 India St		Within 100 feet	H	Historic address	Not evaluated
3741 India St		Within 100 feet	H	Historic address	Not evaluated
3344 Industrial Ct		Within 100 feet	H	Historic address	Not evaluated

H = historical

5.6.3 REGULATORY SETTING

Federal

36 CFR 800 and Section 106 of the National Historic Preservation Act

The National Historic Preservation Act (NHPA) established the NRHP and the President's Advisory Council on Historic Preservation, and provided that states may establish State Historic Preservation Officers to carry out some of the functions of the NHPA. Most significantly for federal agencies responsible for managing cultural resources, Section 106 of the NHPA directs that "[t]he head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the NRHP." Section 106 also affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking (16 USC 470f).

Title 36 of the Code of Federal Regulations (CFR), Part 800 (36 CFR 800), implements Section 106 of the NHPA. It defines the steps necessary to identify historic properties (those cultural resources listed in or eligible for listing in the NRHP), including consultation with federally recognized Native American tribes to identify resources with important cultural values; to determine whether or not they may be adversely affected by a proposed undertaking; and to outline the process for eliminating, reducing, or mitigating the adverse effects.

The content of 36 CFR 60.4 defines criteria for determining eligibility for listing in the NRHP. The significance of cultural resources identified during an inventory must be formally evaluated for

historical significance in consultation with the California State Historic Preservation Office to determine whether the resources are eligible for inclusion in the NRHP. Cultural resources may be considered eligible for listing if they possess integrity of location, design, setting, materials, workmanship, feeling, and association. The criteria for determining eligibility are essentially the same in content and order as those outlined under CEQA, but the criteria under NHPA are labeled A through D (rather than 1–4 under CEQA).

Regarding criteria A through D of Section 106, the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, cultural resources, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that (36 CFR 60.4):

A. Are associated with events that have made a significant contribution to the broad patterns of our history; or

B. Are associated with the lives of persons significant in our past; or

C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Have yielded or may be likely to yield, information important in prehistory or history.

The Advisory Council on Historic Preservation provides methodological and conceptual guidance for identifying historic properties. In 36 CFR 800.4, the steps necessary for identifying historic properties include:

- Determine and document the APE (36 CFR 800.16(d)).
- Review existing information on historic properties within the APE, including preliminary data.
- Confer with consulting parties to obtain additional information on historic properties or concerns about effects to these.
- Consult with Native American tribes (36 CFR 800.3(f)) to obtain knowledge on resources that are identified with places which they attach cultural or religious significance.
- Conduct appropriate fieldwork (including phased identification and evaluation).
- Apply NRHP criteria to determine a resource eligibility for NRHP listing (36 CFR 800.4).

Fulfilling these steps is generally thought to constitute a reasonable effort to identify historic properties within the APE for an undertaking. The obligations of a federal agency must also assess whether an undertaking will have an adverse effect on cultural resources. An undertaking will have an adverse effect when (36 CFR Part 800.5(1)):

> …an undertaking may alter, directly or indirectly, any of the characteristics of a historic property hat qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

The process of determining whether an undertaking may have an adverse effect requires the federal agency to confer with consulting parties in order to appropriately consider all relevant stakeholder concerns and values. Consultation regarding the treatment of a historic property may result in a Programmatic Agreement and/or Memorandum of Agreement between consulting parties that typically include the lead federal agency, State Historic Preservation Office (SHPO), and Native American tribes if they agree to be signatories to these documents. Treatment documents—whether resource-specific or generalized—provide guidance for resolving potential or realized adverse effects to known historic properties or to those that may be discovered during implementation of the undertaking. In all cases, avoidance of adverse effects to historic properties is the preferred treatment measure and it is generally the burden of the federal agency to demonstrate why avoidance may not be feasible. Avoidance of adverse effects may not be feasible if it would compromise the objectives of an undertaking that can be reasonably said to have public benefit. Other non-archaeological considerations about the benefit of an undertaking may also apply, resulting in the determination that avoidance is not feasible. In general, avoidance of adverse effects is most difficult when a permitted undertaking is being implemented, such as identification of an NRHP-eligible archaeological resource during earthmoving.

Because the U.S. Army Corps of Engineers (USACE) is expected to require that the City obtain authorization for most MWMP proposed activities under Section 404 of the federal Clean Water Act, USACE may be required to consult with the SHPO in accordance with federal environmental laws and regulations. As such, plan-related activities with the potential to affect historic properties may be subject to compliance with Section 106 of the NHPA of 1966, as amended, and its implementing regulations (36 CFR Part 800).

National Register of Historic Places

NRHP is the nation's master inventory of known historic resources and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level. As described in National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation, a property must have both historical significance and integrity to be eligible for listing in the NRHP.

The NRHP identifies four criteria for evaluating historical significance. A property must be significant under at least one of these criteria at the national, state, or local level:

- The property is associated with events that have made a significant contribution to the broad patterns of our history.
- The property is associated with the lives of persons significant to our past.
- The property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possess high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- The property has yielded, or is likely to yield, information important to prehistory or history.

In addition to meeting at least one of these four criteria, listed properties must also retain sufficient physical integrity of those features necessary to convey historic significance. The register has identified the following seven aspects of integrity: (1) location, (2) design, (3) setting, (4) materials, (5) workmanship, (6) feeling, and (7) association.

Properties are nominated to the NRHP by the State Historic Preservation Officer of the state in which the property is located, by the Federal Historic Preservation Officer for properties under federal ownership or control, or by the Tribal Historic Preservation Officer if on tribal lands. Listing in the NRHP provides formal recognition of a property's historic, architectural, or archaeological significance based on national standards used by every state. Once a property is listed in the NRHP, it becomes searchable in the NRHP database. Documentation of a property's historic significance helps encourage preservation of the resource.

State

California Environmental Quality Act

As described further below, the following CEQA statutes and CEQA Guidelines are relevant to the analysis of archaeological and historic resources:

- California Public Resources Code (PRC) Section 21083.2(g): Defines "unique archaeological resource."

- California Public Resources Code, Section 21084.1, and CEQA Guidelines, Section 15064.5(a): Defines cultural resources. In addition, CEQA Guidelines, Section 15064.5(b), defines the phrase "substantial adverse change" in the significance of a cultural resource. It also defines the circumstances when a project would materially impair the significance of a cultural resource.
- California Public Resources Code, Section 21074(a): defines "Tribal cultural resources" and Section 21074(b): defines a "cultural landscape."
- California Public Resources Code, Section 5097.98, and CEQA Guidelines, Section 15064.5(e): These statutes set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated ceremony.
- California Public Resources Code, Sections 21083.2(b)–21083.2(c), and CEQA Guidelines, Section 15126.4: These statutes and regulations provide information regarding the mitigation framework for archaeological and historic resources, including options of preservation-in-place mitigation measures; identifies preservation-in-place as the preferred manner of mitigating impacts to significant archaeological sites.

Under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an [sic] cultural resource" (PRC Section 21084.1; CEQA Guidelines Section 15064.5(b)). A "cultural resource" is any site listed or eligible for listing in the CRHR. The CRHR listing criteria are intended to examine whether the resource in question: (a) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (b) is associated with the lives of persons important in our past; (c) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or (d) has yielded, or may be likely to yield, information important in pre-history or history.

The term "cultural resource" also includes any site described in a local register of historic resources, or identified as significant in a cultural resources survey (meeting the requirements of PRC Section 5024.1(q)).

CEQA also applies to "unique archaeological resources." PRC Section 21083.2(g), defines a "unique archaeological resource" as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC Section 21083.2(g)):

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In 2014, CEQA was amended through AB 52 to apply to "tribal culture resources" as well. Specifically, PRC Section 21074, provides guidance for defining TCRs as either of the following (PRC Section 21074):

> Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following: (A) Included or determined to be eligible for inclusion in the California Register of Cultural Resources. (B) Included in a local register of cultural resources as defined in subdivision (k) of §5020.1.
>
> A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of §5024.1. In applying the criteria set forth in subdivision (c) of §5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe. (b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

All cultural resources and unique archaeological resources – as defined by statute – are presumed to be historically or culturally significant for purposes of CEQA (PRC Section 21084.1; 14 CCR 15064.5(a)). The lead agency is not precluded from determining that a resource is a cultural resource even if it does not fall within this presumption (PRC Section 21084.1; 14 CCR 15064.5(a)). A site or resource that does not meet the definition of "cultural resource" or "unique archaeological resource" is not considered significant under CEQA and need not be analyzed further (PRC Section 21083.2(a); 14 CCR 15064.5(c)(4)).

Under CEQA a significant cultural impact results from a "substantial adverse change in the significance of an [sic] cultural resource [including a unique archaeological resource]" due to the "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a cultural resource would be materially impaired" (14 CCR 15064.5(b)(1); PRC Section 5020.1(q)).

In turn, the significance of a cultural resource is materially impaired when a project (14 CCR 15064.5(b)(2)):

1. Demolishes or materially alters in an adverse manner those physical characteristics of a cultural resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of cultural resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an cultural 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 culturally significant; or
3. Demolishes or materially alters in an adverse manner those physical characteristics of a cultural resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

Pursuant to these sections, CEQA first evaluates evaluating whether a project site contains any "cultural resources," then assesses whether that project will cause a substantial adverse change in the significance of a cultural resource such that the resource's historical significance is materially impaired.

When a project significantly affects a unique archaeological resource, CEQA imposes special mitigation requirements. Specifically (PRC Sections 21083.2(b)(1)–21083.2(b)(4)):

> [I]f it can be demonstrated that a project will cause damage to a unique archeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to, any of the following:
>
> 1. Planning construction to avoid archeological sites.
> 2. Deeding archeological sites into permanent conservation easements.
> 3. Capping or covering archeological sites with a layer of soil before building on the sites.
> 4. Planning parks, greenspace, or other open space to incorporate archeological sites.

If these "preservation in place" options are not feasible, mitigation may be accomplished through data recovery (PRC Section 21083.2(d); 14 CCR 15126.4(b)(3)(C)). PRC Section 21083.2(d), states the following:

> [e]xcavation as mitigation shall be restricted to those parts of the unique archeological resource that would be damaged or destroyed by the project. Excavation as mitigation shall not be required for a unique archeological resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the resource, if this determination is documented in the environmental impact report.

These same requirements are set forth in slightly greater detail in CEQA Guidelines, Section 15126.4(b)(3), as follows (14 CCR 15126.4(b)(3)):

A. Preservation in place is the preferred manner of mitigating impacts to archeological sites. Preservation in place maintains the relationship between artifacts and the archeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.

B. Preservation in place may be accomplished by, but is not limited to, the following:

    1. Planning construction to avoid archeological sites;

    2. Incorporation of sites within parks, greenspace, or other open space;

    3. Covering the archeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site[; and]

    4. Deeding the site into a permanent conservation easement.

C. When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the cultural resource, shall be prepared and adopted prior to any excavation being undertaken.

Note that, when conducting data recovery, "[i]f an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation" (14 CCR 15126.4(b)(3)). However, "[d]ata recovery shall not be required for a cultural resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archeological or historic resource, provided that determination is documented in the EIR and that the studies are deposited with the California Cultural Resources Regional Information Center" (14 CCR 15126.4(b)(3)(D)).

Finally, CEQA Guidelines, Section 15064.5, assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are set forth in PRC Section 5097.98.

Native American Historic Cultural Sites (California Public Resources Code Section 5097 et seq.)

The Native American Historic Resources Protection Act (PRC Section 5097 et seq.) addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native

American Historic Resources Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act, enacted in 2001, requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The act also provides a process for the identification and repatriation of these items to the appropriate tribes.

Assembly Bill 52

AB 52 requires that the lead agency begin consultation with a California native tribe that is traditionally and culturally affiliated with the geographic area of a proposed project within 14 days of determining that an application for the project is complete if the project may have a substantial adverse change in the significance of a TCR. The lead agency is only required to notify tribes per AB 52 if the tribe has previously requested that the lead agency send it AB 52 notifications for CEQA projects. AB 52 applies to Notices of Preparation filed on or after July 1, 2015. It is the practice of the City to conduct all tribal consultations consistent with the government-to-government consultation specified in AB 52.

California Health and Safety Code Section 7050.5

California law protects Native American burials, skeletal remains, and associated grave goods, regardless of their antiquity, and provides for the sensitive treatment and disposition of those remains. California Health and Safety Code Section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (California Health and Safety Code, Section 7050.5b). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (California Health and Safety Code, Section 7050.5c). The NAHC will notify the Most Likely Descendant (MLD). With the permission of the landowner, the MLD may inspect the site of discovery. The inspection must be completed within 24 hours of notification of the MLD by the NAHC. The MLD may recommend means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

California Register of Historical Resources

In California, the term "cultural resource" includes "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC Section 5020.1(j)). In 1992, the California legislature established the California Register of Historical Resources (CRHR) "to be used by state and local agencies, private groups, and citizens to identify the state's cultural resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1(a)). A resource is eligible for listing in the CRHR if the State Cultural Resources Commission determines that it is a significant resource and that it meets any of the following NRHP criteria (PRC Section 5024.1(c)):

1. Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Resources less than 50 years old generally are not considered for listing in the CRHR, but may be considered if it can be demonstrated that sufficient time has passed to understand the historical importance of the resource (14 CCR 4852(d)(2)).

The CRHR protects cultural resources by requiring evaluations of the significance of prehistoric and historic resources. The criteria for the CRHR are nearly identical to those for the NRHP, and properties listed or formally designated as eligible for listing on the NRHP are automatically listed on the CRHR, as are state landmarks and points of interest. The CRHR also includes properties designated under local ordinances or identified through local cultural resource surveys. The SHPO maintains the CRHR.

Local

City of San Diego Historical Resources Regulations

The Historical Resources Regulation of the Land Development Code (Chapter 14, Article 3, Division; City of San Diego 2018) states the following:

> The purpose of these regulations is to protect, preserve, and, where damaged, restore the historical resources of San Diego, which include historical buildings, historical structures or historical objects, important archaeological sites, historical districts, historical landscapes, and traditional cultural properties. These regulations are intended to assure that development occurs in a manner that protects the overall quality of historical resources. It is further the intent of these regulations to protect the educational, cultural, economic, and general welfare of the public, while employing regulations that are consistent with sound historical preservation principles and the rights of private property owners.

City Historical Resources Guidelines (HRG) outlines its purpose as follows (City of San Diego 2001, as amended):

> The purpose of this document is to provide property owners, the development community, consultants and the general public with explicit guidelines for the management of cultural resources located within the jurisdiction of the City of San Diego. These guidelines are designed to implement the City's Historical Resources Regulations contained in the City's Municipal Code (Chapter 14, Article 3, Division 2,) in compliance with the applicable local, state, and federal policies and mandates, including, but not limited to, the City's Progress Guide and General Plan, the California Environmental Quality Act of 1970, and Section 106 of the National Historic Preservation Act of 1966. The intent of the guidelines is to ensure consistency in the management of the City's historical resources, including identification, evaluation, preservation/mitigation and development.

The City's HRG observes the following:

> Historical resources include all properties (historic, archaeological, landscapes, traditional, etc.) eligible or potentially eligible for the National Register of Historic Places, as well as those that may be significant pursuant to state and local laws and registration programs such as the California Register of Historical Resources or the City of San Diego Historical Resources Register. "Historical resource" means site improvements, buildings, structures, historic districts, signs, features (including

> significant trees or other landscaping), places, place names, interior elements and fixtures designated in conjunction with a property, or other objects of historical, archaeological, scientific, educational, cultural, architectural, aesthetic, or traditional significance to the citizens of the City. They include buildings, structures, objects, archaeological sites, districts or landscapes possessing physical evidence of human activities that are typically over 45 years old, regardless of whether they have been altered or continue to be used. Historical resources also include traditional cultural properties. The following definitions are based, for the most part, on California's Office of Historic Preservation's (OHP's) Instructions for Recording Historical Resources and are used to categorize different types of historical resources when they are recorded.

The City General Plan EIR states the following (City of San Diego 2007):

> The Historical Resources Regulations require that designated cultural resources and traditional cultural properties be preserved unless deviation findings can be made by the decision maker as part of a discretionary permit. Minor alterations consistent with the U.S. Secretary of the Interior's Standards are exempt from the requirement to obtain a separate permit but must comply with the regulations and associated cultural resources guidelines. Limited development may encroach into important archaeological sites if adequate mitigation measures are provided as a condition of approval.
>
> Historical Resources Guidelines, located in the Land Development Manual, provide property owners, the development community, consultants and the general public explicit guidance for the management of cultural resources located within the City's jurisdiction. These guidelines are designed to implement the cultural resources regulations and guide the development review process from the need for a survey and how impacts are assessed to available mitigation strategies and report requirements and include appropriate methodologies for treating cultural resources located in the City.

In general, the City's Historical Resources Regulations build on federal and state cultural resources laws and guidelines in an attempt to streamline the process of considering impacts to cultural resources within the City's jurisdiction, while maintaining that some resources not significant under federal or state law may be considered historical under the City's guidelines. To apply the criteria and determine the significance of potential impacts to a cultural resource, the APE of a project must be defined for both direct impacts and indirect impacts. Indirect impacts can include increased public access to an archaeological site, or visual impairment of a historically significant view shed related to a historic building or structure.

City of San Diego Historical Resource Board

The Historical Resources Board is established by the City Council as an advisory board to identify, designate and preserve the historical resources of the City; to review and make a recommendation to the appropriate decision-making authority on applications for permits and other matters relating to the demolition, destruction, substantial alteration, removal or relocation of designated historical resources; to establish criteria and provide for a Historical Resources Inventory of properties within the boundaries of the City; and to recommend to the City Council and Planning Commission procedures to facilitate the use of the Historical Resources Inventory results in the City's planning process in accordance with Section 111.0206 of the Land Development Code.

City of San Diego Historical Resources Board Design Criteria

The HRG of the City's Land Development Manual (City of San Diego 2001) identifies the criteria under which a resource may be historically designated. It states that any improvement, building, structure, sign, interior element and fixture, site, place, district, area, or object may be designated a historical resource by the City Historical Resources Board if it meets one or more of the following designation criteria:

a. Exemplifies or reflects special elements of the City's, a community's or a neighborhood's historical, archaeological, cultural, social, economic, political, aesthetic, engineering, landscaping or architectural development;

b. Is identified with persons or events significant in local, state or national history;

c. Embodies distinctive characteristics of a style, type, period or method of construction or is a valuable example of the use of indigenous materials or craftsmanship;

d. Is representative of the notable work of a master builder, designer, architect, engineer, landscape architect, interior designer, artist or craftsman;

e. Is listed or has been determined eligible by National Park Service for listing on the National Register of Historic Places or is listed or has been determined eligible by the State Historical Preservation Office for listing on the State Register of Historical Resources; or

f. Is a finite group of resources related to one another in a clearly distinguishable way or is a geographically definable area or neighborhood containing improvements which have a special character, historical interest or aesthetic value or which represent one or more architectural periods or styles in the history and development of the City.

City of San Diego General Plan

The Historic Preservation Element of the City's General Plan was adopted in 2008 and amended in 2015. The relevant goals of the Historic Preservation Element are as follows (City of San Diego 2015a):

A.1 Strengthen historic preservation planning.

A.2 Fully integrate the consideration of historical and cultural resources in the larger land use planning process.

A.3 Foster government-to-government relationships with the Kumeyaay/Diegueño tribes of San Diego.

A.4 Actively pursue a program to identify, document and evaluate the historical and cultural resources in the City of San Diego.

A.5 Designate and preserve significant historical and cultural resources for current and future generations.

5.6.4 THRESHOLDS OF SIGNIFIGANCE

The City's *California Environmental Quality Act Significance Determination Thresholds* (City of San Diego 2016) and Appendix G of the CEQA Guidelines contain significance guidelines related to cultural resources. The following significance thresholds are adapted from the City's Significance Thresholds and Appendix G of the CEQA Guidelines, and provide guidance to determine potential significance for historic and cultural resources and TCRs. A potentially significant impact to historic and cultural resources may occur if the proposed MWMP would result in the following:

Issue 1: An alteration, including the adverse physical or aesthetic effects and/or destruction of a prehistoric or historic building (including an architecturally significant building), structure, object, site, or existing religious or sacred use.

Issue 2: The disturbance of any human remains, including those interred outside of formal cemeteries.

Issue 3: A substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

5.6.5 APPROACH AND METHODOLOGIES

Depending on the cultural sensitivity of an area, previous development, and the invasiveness of the maintenance activity, many facilities can undergo specific maintenance activities without risk of impact to cultural resources. This negates the need to conduct additional cultural resource review to identify and mitigate potential cultural resource impacts for those particular facilities. By reviewing archival research and urban development surrounding known resources, and comparing these resources qualities to the invasiveness of proposed maintenance activities, Dudek has determined the cultural resource sensitivity of each of the potential MWMP project facilities, and the potential of each proposed maintenance activity to disturb archaeological deposits. Further, Dudek has determined the potential of each proposed maintenance activity to historical resources.

The Section 106 regulations, specifically 36 CFR 800.14(c), allow for the development of cultural resource review maintenance plans by stipulating the identification of classes or categories of activities and/or facilities that would be exempt from Section 106 or cultural resource review. Maintenance plans have been applied to similar projects in the past, including the statewide California Department of Transportation Section 106 Programmatic Agreement and the U.S. Army Corps of Engineers Section 106 Programmatic Agreement for the Columbia River Power System Projects in northwestern United States.

Further, Dudek has reviewed the sensitivity of the MWMP facilities and has constructed review matrices to guide the City's MWMP and prevent significant impacts to archaeological and historical resources (see Table 5.6-4, Archaeological Review Matrix; Table 5.6-5, Non-Exempt Activities; and Table 5.6-6, Historical Resources Review Matrix).

5.6.6 IMPACTS

As described in Chapter 4, Project Description, the MWMP includes a description of maintenance and repair activities and supporting implementation methods. The majority of these activities are routine and anticipated to occur in conformance with specific FMPs included in the MWMP (Appendix A). Routine refers to typical activities that occur on a regular, ongoing basis and are associated with maintaining storm water infrastructure. However, additional activities not identified in an FMP may be required and may occur anywhere within the City's storm water conveyance system.

Potential site-specific impacts associated with implementation of MWMP activities and methods as identified in the FMPs are described below under the "Project-Level Analysis (FMPs)" heading for each of the issues identified. As further detailed in Chapter 4, Project Description, MWMP activities consist of maintenance and repair activities. Maintenance activities include vegetation and invasive plant species management, sediment/debris removal, structural/debris/trash-fence clearing, and culvert clearing. Repair activities include concrete (minor and major) and bank repair, and structural/debris/trash-fence repair. All proposed FMPs have been evaluated for potential historical and cultural resource impacts in the *Historical Resources Inventory Report* (Appendix E) and *Cultural Resources Inventory/Evaluation Report* (Appendix F), respectively.

Potential impacts associated with implementation of additional MWMP activities and methods (i.e., minor maintenance, changed conditions/new or substantially amendment FMPs, compensatory mitigation sites, and emergency maintenance) are identified in Section 5.6.7, Program-Level Analysis (Other MWMP Activities). These impacts are analyzed to the extent feasible at this time; however, additional project-level CEQA analysis and/or new or amended permits may be required prior to implementation.

Issue 1: Would the project result in an alteration, including the adverse physical or aesthetic effects and/or the destruction of a prehistoric or historic building (including an architecturally significant building), structure, object, or site, or existing religious or sacred use?

Project-Level Analysis (FMPs)

Prehistoric and Historic Archaeological Resources

Many of the maintenance activities proposed by the MWMP would require no ground disturbance, such as hand removal of vegetation and graffiti removal, herbicide and rodenticide activities, temporary access/loading, temporary stockpiling, and temporary water diversion. If the area surrounding the facility contains no archaeological resources or if it is completely developed, the maintenance activities that require no ground disturbance would have no potential to significantly impact archaeological resources. Prior to initiation of maintenance activities, City staff would review the Archaeological Review Matrix (Table 5.6-4) to determine the presence of resources and need, or lack thereof, for additional avoidance and minimization measures.

Proposed ground-disturbing MWMP activities include mechanized removal of vegetation, sediment, and/or debris; concrete repair; and bank repair. Many earthen-bottom channels and basins underwent deep excavation during their construction, and construction activities would have displaced any archaeological resources or native soils that were present. Repeated water flowing and erosion episodes would have displaced any resources from earthen-bottom channels and replaced the surface stratum of the channel with displaced sediment/debris from farther upstream.

Considering the repeated disturbance, MWMP activities that disturb the surface of earthen-bottom channels are unlikely to significantly impact archaeological resources. Conversely, concrete-lined facilities may have preserved cultural deposits below the concrete. The repair or replacement of concrete within facilities that intersect previously recorded cultural resources or highly sensitive area is not exempt from further cultural review.

The majority of MWMP-proposed activities do not have the potential to significantly impact archaeological resources. There are circumstances at specific facilities, such as areas of extreme cultural sensitivity, which would require further archaeological review prior to maintenance. Dudek has reviewed the sensitivity of the MWMP facilities and has constructed the Archaeological Review Matrix (see Table 5.6-4) to guide the City's MWMP and prevent significant impacts to archaeological resources. Maintenance activities that have been determined to be exempt from further archaeological review (see activities marked with an "X" in Table 5.6-4, Archaeological Review Matrix) do not pose a significant impact to resources that are listed in or eligible for listing in the CRHR or NRHP. This includes those archaeological resources that have not been formally evaluated. Impacts to at-risk cultural resources would be avoided through project design and by requiring further archaeological review prior to MWMP maintenance activities.

Regarding the application of the review matrix and use by City staff to determine where further review is required, maintenance activities that do not pose a significant impact to archaeological resources at specified MWMP facilities are marked with an "X" in the matrix. These activities do not require further review or monitoring. Maintenance activities that are non-exempt and marked with "Review" in the matrix require further archaeological review at the specified MWMP facility. Table 5.6-5, Non-Exempt Activities, is an abbreviated version of Table 5.6-4 that shows only those facilities and activities that require further review.

Regarding unknown cultural resources, MWMP maintenance activities have potential to impact previously undiscovered cultural resources, including TCRs and/or grave sites. MWMP facilities and maintenance activities would occur in highly sensitive areas with many past instances of human remain discoveries. In addition, MWMP maintenance activities are located in creek and canyon landscapes that are considered highly sensitive by local Native American tribal groups. Lastly, no known religious or sacred uses have been identified within the MWMP APE, but for the same reasons as described above, there is potential for these to be encountered during future maintenance activities. Regarding known cultural resources, project-level maintenance activities may result in impacts to unevaluated or recommended eligible resources if not properly designed (i.e., project design does not avoid the known resource). Therefore, impacts to known and previously undiscovered cultural resources due to MWMP activities would be **potentially significant** (**CR-1**), absent mitigation.

Historical Resources

Ground-disturbing maintenance activities associated with the proposed MWMP (e.g., grubbing/clearing/blading, grading, trenching, boring, disking) have a low potential to adversely affect/impact historical resources due to their distance from potential built-environment resources and the lack of groundborne vibration associated with such activities. However, invasive ground-disturbing maintenance activities, such as concrete pouring, concrete repair, and riprap replacement, have the potential to adversely affect/impact historical resources.

Proposed maintenance activities that do not include ground disturbance (hand removal of vegetation, graffiti removal, herbicide and rodenticide activities, temporary access/loading, temporary stockpiling, and temporary water diversion) have no potential to impact historical resources. Development of maintenance staging areas and permanent access ramps would have a potential to cause an adverse effect/significant impact; however, measures have been incorporated into the design of FMPs to reduce the potential for impacts, including minimizing grading, using existing disturbed lots and public rights-of-way, and having all staging and access routes be temporary (i.e., no permanent improvements are proposed).

Proposed ground-disturbing MWMP activities include vegetation management, sediment and debris removal, and bank repair/grading. With regard to historical resources, these activities do not have the potential to impact concrete-lined channels or the previously identified historical resources identified in Table 5.6-3. However, there is potential to cause an adverse effect or to significantly impact earthen-bottom channels if the proposed ground-disturbing activities result in alteration of channel shape, depth, or alignment. It is anticipated that the proposed work would continue to maintain earthen-bottom facilities in their as-built condition and dimensions, thereby complying with CEQA. A simple verification that the proposed work would retain the as-built conditions and dimensions of earthen-bottom facilities would confirm that there would be no significant impact to the historical resource in question.

As with cultural resources, Dudek has designed a historical resources review matrix to specify which maintenance activities are exempt at particular MWMP facilities (Table 5.6-6, Historical Resources Review Matrix). Facilities where activities are marked with an "X" would not require further evaluation. Where earthen-bottom facilities are identified as needing review, verification that the proposed activity would maintain the historic shape and design of the channel would be warranted. Maintaining the historic shape and design of earthen-bottom facilities conforms with the Secretary of the Interior's Standards for the Treatment of Historic Properties. However, should a change in shape and/or design be required, then impacts would be **potentially significant** (**HR-1**), absent mitigation. In addition, where concrete-lined channels or other facilities are identified as needing review under the Concrete Repair (Major), Concrete Repair (Minor), and/or Riprap Replacement

activity columns, impacts could be **potentially significant** (**HR-1**), absent mitigation, because avoidance or other measures would be required to minimize effects to historic resources.

For Concrete Repairs (Minor) that are non-mechanized (i.e., done by hand) and that would be bonded to the existing concrete in a manner consistent with the existing material and surface texture, the appearance and form of the existing channel would be maintained, thereby complying with CEQA. A simple verification that the proposed non-mechanized work would retain the as-built condition and texture of the concrete-lined facility would confirm that there would be no significant impact to the historical resource in question.

No significant impacts to historical resources that are listed in or eligible for listing in the CRHR or NRHP have been identified, including those historical resources that have not been formally evaluated. However, should activities change or be augmented, MWMP maintenance activities have potential to impact historic resources, and such impacts would be **potentially significant** (**HR-1**), absent mitigation.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Table 5.6-4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) – Equipment In Channel	Excavation (Previous Disturbance) – Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) (Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
San Dieguito River Watershed														
Green Valley Creek - Pomerado	1-04-030	Pomerado - 1	x	x	x	N/A	x	x	x	x	x	P-37-000580	Intersects	Prehistoric scatter
Green Valley Creek - Pomerado	1-04-033	Pomerado - 2	x	x	x	N/A	x	x	x	x	x	P-37-000581	Intersects	Prehistoric scatter
Green Valley Creek - Paseo del Verano	1-04-200	Paseo del Verano - 1	x	x	x	x	N/A	x	x	x	x	None		
Los Peñasquitos Watershed														
Los Peñasquitos Canyon Creek – Sorrento	2-01-000	Sorrento Valley - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Los Penasquitos Lagoon – Industrial	2-01-120	Industrial - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Los Peñasquitos Lagoon - Industrial	2-01-122	Industrial - 2	x	x	x	N/A	Review	x	x	x	x	None	N/A	N/A
Los Peñasquitos Lagoon – Tripp	2-01-130	Tripp - 1	x	x	x	N/A	Review	x	x	x	x	P-37-036415	Adjacent	Distribution line
Los Peñasquitos Canyon Creek - Black Mountain	2-01-200	Black Mountain - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Los Peñasquitos Canyon Creek - Black Mountain	2-01-210	Black Mountain - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Los Peñasquitos Canyon Creek - 5-805 Basin	2-01-900	5-805 Fwys - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-031095	Intersects	Prehistoric hearths
Soledad Canyon Creek – Sorrento	2-03-000	Roselle - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-001010	Adjacent	Destroyed Prehistoric artifact scatter
Soledad Canyon Creek – Sorrento	2-03-002	Roselle - 2	x	x	x	N/A	Review	x	x	x	x	P-001010	Adjacent	Destroyed Prehistoric artifact scatter
Soledad Canyon Creek – Sorrento	2-03-004	SorValRd - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-004609	Intersects	Prehistoric village
Soledad Canyon Creek – Sorrento	2-03-006	SorValRd - 2	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Carroll Canyon Creek – Carroll	2-03-012	Carroll Canyon - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Soledad Canyon Creek - Flintkote	2-03-100	Flintkote - 1	x	x	x	N/A	Review	x	x	x	x	None	N/A	N/A
Soledad Canyon Creek – Dunhill	2-03-150	Dunhill - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Chicarita Creek - Via San Marco	2-05-140	Via San Macro - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A

Table 5.6-4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) – Equipment In Channel	Excavation (Previous Disturbance) – Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) (Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
10405 Sorrento Valley	HW04220	10405 Sorrento Valley	x	x	x	N/A	Review	x	x	x	x	P-37-004609	Intersects	Prehistoric village
Mission Bay Watershed														
Torrey Pines – Torrey	3-00-120	Torrey Pines - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-031737; P-37-034756	Adjacent	Historic trash dump; pottery kiln. All parcels within Pottery Canyon Park are listed on the City's Historical Resources Register (#108)
Alta La Jolla – Vickie	3-00-150	Vickie - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Mission Bay – MBHS	3-02-101	PB-Olney - 1	x	x	x	x	N/A	x	x	x	x	P-37-005017	Adjacent	Prehistoric habitation
Mission Bay – MBHS	3-02-103	MBHS - 1	x	x	x	N/A	x	x	x	x	x	P-37-005017	Adjacent	Prehistoric habitation
Mission Bay – Mission Bay Drive	3-02-130	Mission Bay Drive - 1	x	x	x	x	N/A	x	x	x	x	P-37-005017	Adjacent	Prehistoric habitation
Miramar – Engineer	3-03-901	Engineer - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Tecolote Creek – Chateau	3-04-055	Chateau - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Tecolote Creek – Chateau	3-04-250	Chateau - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Tecolote Creek – Morena	3-04-101	Morena - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Tecolote Creek – Genesee	3-04-160	Genesee - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
San Diego River Watershed														
San Diego River – Nimitz	4-01-103	Nimitz - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
San Diego River – Nimitz	4-01-105	Nimitz - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
San Diego River – Nimitz	4-01-107	Nimitz - 3	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
San Diego River – Valeta	4-01-120	Valeta - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
San Diego River – Camino del Rio	4-03-101	Camino del Arroyo - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
San Diego River – Camino del Rio	4-03-103	Camino del Rio - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Murphy Canyon Creek – Stadium	4-04-000	Stadium - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Murphy Canyon Creek – Stadium	4-04-002	Stadium - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A

Table 5.6-4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) – Equipment In Channel	Excavation (Previous Disturbance) – Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) (Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
Murphy Canyon Creek – Stadium	4-04-006	Murphy Canyon - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Murphy Canyon Creek – Stadium	4-04-008	Murphy Canyon - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Mission Gorge	4-07-002	Mission Gorge - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Mission Gorge	4-07-004	Mission Gorge - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Mission Gorge	4-07-009	Mission Gorge - 3	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Mission Gorge	4-07-011	Mission Gorge - 4	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Alvarado	4-07-021	Alvarado - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Alvarado	4-07-023	Alvarado - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Alvarado Canyon Creek – Alvarado	4-07-250	Alvarado - 3	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Murray Reservoir – Cowles Mountain	4-07-901	Cowles Mountain - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Murray Reservoir – Cowles Mountain	4-07-911	Cowles Mountain - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Norfolk Canyon Creek – Fairmount	4-08-008	Fairmount - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Norfolk Canyon Creek – Fairmount	4-08-011	Fairmount - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Norfolk Canyon Creek – Fairmount	4-08-014	Fairmount - 3	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Norfolk Canyon Creek – Fairmount	4-08-017	Fairmount - 4	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Norfolk Canyon Creek – Fairmount	4-08-105	Baja - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Norfolk Canyon Creek – Fairmount	4-08-150	Aldine - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
1331 Washington	OT03537	1331 Washington	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
1277 Camino Del Rio South	IN10399	1277 Camino Del Rio South	x	x	x	N/A	x	x	x	x	x	P-37-011055	Adjacent	Prehistoric hearth and artifact scatter
5505 Friars Road	OT05573	5505 Friars Road	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A

Table 5.6-4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) – Equipment In Channel	Excavation (Previous Disturbance) – Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) (Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
1660 Hotel Circle North	OT03321	1660 Hotel Circle North	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
901 Hotel Circle South	HW02440	901 Hotel Circle South	x	x	x	N/A	x	x	x	x	x	P-37-011055	Adjacent	Prehistoric hearth and artifact scatter
2087 Hotel Circle South	HW02437	2087 Hotel Circle South	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Pueblo San Diego Watershed														
Maple Canyon Creek – Maple	5-02-140	Maple - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Washington Canyon Creek – Washington	5-02-151	Washington - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Washington Canyon Creek – Washington	5-02-152	Washington - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Mission Hills Canyon Creek – Titus	5-02-162	Titus - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Powerhouse Canyon Creek – Pershing	5-03-011	Pershing - 1	x	x	x	N/A	x	x	x	x	x	P-37-016659	Within 70 feet	San Diego Flume System
Powerhouse Canyon Creek – Pershing	5-03-100	Pershing - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
San Diego Bay – 28th St	5-03-901	28th St - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Chollas Creek - National	5-04-004	National - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-012091; P-37-025853	Intersects	Prehistoric habitation refuse
Chollas Creek - National	5-04-006	National - 2	x	x	x	N/A	Review	x	x	x	x	P-37-025852	Intersects	Prehistoric shell scatter
Chollas Creek – Rolando	5-04-044	Cartagena - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Chollas Creek – Rolando	5-04-046	Rolando - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Chollas Creek – Rolando	5-04-048	Rolando - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Chollas Creek – Martin	5-04-101	Martin - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-025853	Intersects	Prehistoric habitation refuse
Chollas Creek – J St	5-04-163	J St – 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Auburn Creek – Home	5-04-220	Home - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Auburn Creek – Home	5-04-224	Home - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Auburn Creek – Home	5-04-227	Home - 3	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Auburn Creek – Home	5-04-229	Home - 4	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A

Table 5.6-4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) – Equipment In Channel	Excavation (Previous Disturbance) – Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) (Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
Auburn Creek – Home	5-04-231	Home - 5	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Auburn Creek – Wightman	5-04-239	Wightman - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Auburn Creek – Wightman	5-04-241	Wightman - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Auburn Creek – Oakcrest	5-04-245	Oakcrest - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Chollas Creek – Megan	5-04-260	Megan - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Chollas Creek – Megan	5-04-262	Megan - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Chollas Creek – 54th St.	5-04-280	54th St - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
South Chollas Creek – Southcrest	5-05-006	Alpha - 1	x	x	x	x	N/A	x	x	x	x	P-37-025706; P-37-034479	Intersects	Shell scatter; Pedestrian bridge
South Chollas Creek – Southcrest	5-05-008	Ocean View - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
South Chollas Creek – Euclid	5-05-019	Euclid - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
South Chollas Creek – Euclid	5-05-021	Euclid - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
South Chollas Creek – Federal	5-05-035	Federal - 1	x	x	x	x	N/A	x	x	x	x	P-37-011165	Intersects	Prehistoric midden and artifact scatter
South Chollas Creek – Federal	5-05-037	Federal - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Castana	5-05-205	Castana - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Imperial	5-05-304	Imperial - 1	x	x	x	x	N/A	x	x	x	x	P-37-016029	Intersects	Lithic artifact scatter
South Chollas Creek Encanto Branch – Imperial	5-05-306	Imperial - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Jamacha	5-05-603	Jamacha - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Jamacha	5-05-606	Jamacha - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Jamacha	5-05-610	Jamacha - 3	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Jamacha	5-05-702	Lobrico - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
South Chollas Creek Encanto Branch – Jamacha	5-05-802	Cadman - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A

Table 5.6-4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) – Equipment In Channel	Excavation (Previous Disturbance) – Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) (Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
Paleta Creek – Cottonwood	5-06-005	Cottonwood - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Paleta Creek – Cottonwood	5-06-008	Cottonwood - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Paleta Creek – Solola	5-06-020	Solola - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Paleta Creek – Solola	5-06-023	Solola - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Paleta Creek – Solola	5-06-025	Cervantes - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
3644 Roselawn	OT03694	3644 Roselawn	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
4202 J Street	HW04013	4202 J Street	x	x	x	N/A	x	x	x	x	x	P-37-035162	Adjacent	Memorial park
1206 Goodyear	OT04671	1206 Goodyear	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Sweetwater Watershed														
Sweetwater River - Parkside	5-11-003	Parkside - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Nestor Creek – Nestor	5-22-008	Cedar - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Otay Watershed														
Nestor Creek – Nestor	5-22-010	Cedar - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Nestor Creek – Nestor	5-22-013	Dahlia - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Nestor Creek – Nestor	5-22-016	Cerissa - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Nestor Creek – Nestor	5-22-023	Grove - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Nestor Creek – Nestor	5-22-028	30th St - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Nestor Creek – Outer	5-22-110	Outer - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Nestor Creek – Outer	5-22-112	Outer - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Tijuana River Watershed														
Tijuana River - Pilot & Smuggler's	6-01-020	Pilot Channel - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Tijuana River - Pilot & Smuggler's	6-01-100	Smuggler's Gulch - 1	x	x	x	x	N/A	x	x	x	x	P-37-002611; P-37-010669; P-37-013486; P-37-013527	Intersects	Prehistoric lithic scatter; Prehistoric habitation site; Prehistoric shell and lithic scatter; Prehistoric shell and lithic scatter
Tijuana River – Tocayo	6-02-115	Tocayo - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Tijuana River – Tocayo	6-02-118	Tocayo - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Tijuana River – Smythe	6-03-135	Via Encantadoras - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A

Table 5.6-4
Archaeological Review Matrix

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (Previous Disturbance) – Equipment In Channel	Excavation (Previous Disturbance) – Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Repair (Major) (Possible Over-Excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
Tijuana River – Smythe	6-03-138	Via Encantadoras - 2	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Tijuana River – Smythe	6-03-143	Via Encantadoras - 3	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Tijuana River – Smythe	6-03-147	Smythe - 1	x	x	x	x	N/A	x	x	x	x	P-37-031491	Intersects	Historic path of Otay Mesa Road
Tijuana River – Smythe	6-03-150	Via de la Bandola - 1	x	x	x	N/A	x	x	x	x	x	None	N/A	N/A
Spring Canyon Creek – Cactus	6-04-251	Cactus - 1	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Spring Canyon Creek – Cactus	6-04-253	Cactus - 2	x	x	x	x	N/A	x	x	x	x	None	N/A	N/A
Tijuana River – Siempre Viva	6-05-110	Siempre Viva - 1	x	x	x	x	N/A	x	x	x	x	P-37-007208	Intersects	Prehistoric lithic scatter
Tijuana River – La Media	6-06-011	La Media - 1	x	x	x	x	N/A	x	x	x	x	P-37-007208	Intersects	Prehistoric lithic scatter

Notes: Activities marked with "x" do not require further archaeological review. Facilities listed as "None" under "Resource" do not require additional evaluation.
IAMFLOC = Infrastructure Asset Management Functional Location; MBHS = Mission Bay High School; PB = Pacific Beach; N/A = not applicable.

Table 5.6-5
Non-Exempt Activities

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (previous disturbance) – Equipment in Channel	Excavation (previous disturbance) – Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Removal (possible over-excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (dams, pumps, discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
Los Peñasquitos Watershed														
10405 Sorrento Valley	HW04220	10405 Sorrento Valley	x	x	x	N/A	Review	x	x	x	x	P-37-004609	Intersects	Prehistoric village
Carroll Canyon Creek - Carroll	2-03-012	Carroll Canyon - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Los Penasquitos Canyon Creek - 5-805 Basin	2-01-900	5-805 Fwys - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-031095	Intersects	Prehistoric hearths
Los Penasquitos Canyon Creek - Sorrento Valley	2-01-000	Sorrento Valley - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Penasquitos Lagoon - Industrial	2-01-020	Industrial - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Penasquitos Lagoon - Industrial	2-01-022	Industrial - 2	x	x	x	N/A	Review	x	x	x	x	None	N/A	N/A
Penasquitos Lagoon - Tripp	2-01-130	Tripp - 1	x	x	x	N/A	Review	x	x	x	x	P-37-036415	Adjacent	Distribution line
Soledad Canyon Creek - Dunhill	2-03-150	Dunhill - 1	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Soledad Canyon Creek - Flintkote	2-03-100	Flintkote - 1	x	x	x	N/A	Review	x	x	x	x	None	N/A	N/A
Soledad Canyon Creek - Sorrento	2-03-000	Roselle - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-001010	Adjacent	Destroyed Prehistoric artifact scatter
Soledad Canyon Creek - Sorrento	2-03-002	Roselle - 2	x	x	x	N/A	Review	x	x	x	x	P-001010	Adjacent	Destroyed Prehistoric artifact scatter
Soledad Canyon Creek - Sorrento	2-03-004	SorValRd - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-004609	Intersects	Prehistoric village

Table 5.6-5
Non-Exempt Activities

Facility Group Name	Facility/ IAMFLOC Number	Segment Name – Number	Excavation (previous disturbance) – Equipment in Channel	Excavation (previous disturbance) – Equipment Outside Channel	Dredging	Earthen Bank Grading	Concrete Removal (possible over-excavation)	Temporary Access/ Loading, Staging, or Stockpiling	Temporary Diversions (dams, pumps, discharge)	Hand Removal of Vegetation	Mowing of Vegetation	Resource	Proximity	Site Description
Soledad Canyon Creek - Sorrento	2-03-006	SorValRd - 2	Review	Review	Review	Review	N/A	x	x	x	x	None	N/A	N/A
Mission Bay Watershed														
Torrey Pines – Torrey	3-00-120	Torrey Pines - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-031737; P-37-034756	Adjacent	Historic trash dump; pottery kiln. All parcels within Pottery Canyon Park are listed on the City's Historical Resources Register (#108)
Pueblo San Diego Watershed														
Chollas Creek - National	5-04-004	National - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-012091; P-37-025853	Intersects	Prehistoric habitation refuse
Chollas Creek - National	5-04-006	National - 2	x	x	x	N/A	Review	x	x	x	x	P-37-025852	Intersects	Prehistoric shell scatter
Chollas Creek - Martin	5-04-101	Martin - 1	Review	Review	Review	Review	N/A	x	x	x	x	P-37-025853	Intersects	Prehistoric habitation refuse

Notes: Activities marked with "x" do not require further archaeological review. Facilities listed as "None" under "Resource" do not require additional evaluation.
IAMFLOC = Infrastructure Asset Management Functional Location; N/A = not applicable.

Table 5.6-6
Historical Resources Review Matrix

Facility Group Name	Facility Number	Segment Name – Number	Historical Constraint	Excavation (Previous Disturbance) – Equipment In Facility	Excavation (Previous Disturbance) – Equipment Outside Facility	Dredging	Bank Repair (Earthen Channels Only)	Concrete Repair (Major)	Concrete Repair (Minor)	Riprap Replacement	Temporary Access/ Loading, Staging or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand-Removal of Vegetation	Mowing/trimming of Vegetation	Resource	Proximity	Site Description
San Dieguito River Watershed																	
Concrete																	
Green Valley Creek – Pomerado	1-04-030	Pomerado – 1	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1963 concrete channel
Green Valley Creek – Pomerado	1-04-033	Pomerado – 2	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1963 concrete channel
Earthen																	
Green Valley Creek – Paseo del Verano	1-04-200	Paseo del Verano – 1 (basin)	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Los Peñasquitos Watershed																	
Concrete																	
Los Peñasquitos Lagoon – Industrial	2-01-122	Industrial – 2	None	x	x	x	N/A	x	x	x	x	x	x	x	Channel	Intersects	1963 concrete channel
Los Peñasquitos Lagoon – Tripp	2-01-130	Tripp – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Soledad Canyon Creek – Sorrento	2-03-002	Roselle – 2	None	x	x	x	N/A	x	x	x	x	x	x	x	Channel	Intersects	c. 1963–1974 concrete channel
Soledad Canyon Creek – Flintkote	2-03-100	Flintkote – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	Channel	Intersects	c. 1963–1974 concrete channel
Chicarita Creek – Via San Marco	2-05-140	Via San Marco – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	Channel	Intersects	c. 1972 concrete channel
10405 Sorrento Valley	HW04220	10405 Sorrento Valley	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Earthen																	
Los Peñasquitos Canyon Creek – Sorrento	2-01-000	Sorrento Valley – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	c. 1953–1964 earthen channel
Los Penasquitos – Industrial	2-01-120	Industrial – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1963 earthen channel
Los Peñasquitos Canyon Creek – Black Mountain	2-01-200	Black Mountain – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Los Peñasquitos Canyon Creek – Black Mountain	2-01-210	Black Mountain – 2	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Los Peñasquitos Canyon Creek – 5-805 Basin	2-01-900	5-805 Fwys – 1 (basin)	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Basin	Intersects	1960; c. 1963–1974 earthen basin

Table 5.6-6
Historical Resources Review Matrix

Facility Group Name	Facility Number	Segment Name – Number	Historical Constraint	Excavation (Previous Disturbance) – Equipment In Facility	Excavation (Previous Disturbance) – Equipment Outside Facility	Dredging	Bank Repair (Earthen Channels Only)	Concrete Repair (Major)	Concrete Repair (Minor)	Riprap Replacement	Temporary Access/ Loading, Staging or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand-Removal of Vegetation	Mowing/trimming of Vegetation	Resource	Proximity	Site Description
Soledad Canyon Creek – Sorrento	2-03-000	Roselle – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	c. 1963–1974 earthen channel
Soledad Canyon Creek – Sorrento	2-03-004	SorValRd – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Soledad Canyon Creek – Sorrento	2-03-006	SorValRd – 2	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Carroll Canyon Creek – Carroll	2-03-012	Carroll Canyon – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Soledad Canyon Creek – Dunhill	2-03-150	Dunhill – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1962 earthen channel
Mission Bay Watershed																	
Concrete																	
Mission Bay – MBHS	3-02-103	MBHS – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	Channel	Intersects	1961, 1963 concrete channel
Miramar – Engineer	3-03-901	Engineer – 1	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel; 7969 Engineer Rd.; 7988 Engineer Rd.; 8025 Engineer Rd.; 8123 Engineer Rd.; 8133-8141 Engineer Rd.; 8159 Engineer Rd	Intersects; Adjacent; Adjacent; Adjacent; Adjacent; Adjacent; Adjacent	1962 concrete channel; seven buildings more than 45 years old (not previously evaluated)
Tecolote Creek – Chateau	3-04-055	Chateau – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	Channel	Intersects	c. 1963–1969 concrete channel
Tecolote Creek – Chateau	3-04-250	Chateau – 2	None	x	x	x	N/A	x	x	x	x	x	x	x	Channel	Intersects	c. 1963–1969 concrete channel

Table 5.6-6
Historical Resources Review Matrix

Facility Group Name	Facility Number	Segment Name – Number	Historical Constraint	Excavation (Previous Disturbance) – Equipment In Facility	Excavation (Previous Disturbance) – Equipment Outside Facility	Dredging	Bank Repair (Earthen Channels Only)	Concrete Repair (Major)	Concrete Repair (Minor)	Riprap Replacement	Temporary Access/ Loading, Staging or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand-Removal of Vegetation	Mowing/trimming of Vegetation	Resource	Proximity	Site Description
Earthen																	
Torrey Pines – Torrey	3-00-120	Torrey Pines – 1	Yes	Review	Review	Review	Review	N/A	N/A	N/A	Review	Review	Review	Review	Channel; P-37-034756; 2725 Torrey Pines Rd.	Intersects; Adjacent; Adjacent	Pre-1953 earthen channel; pottery kiln; buildings more than 45 years old (designated). Pottery Canyon Park is listed on the City's Register of Historical Resources (HRB #108)
Alta La Jolla – Vickie	3-00-150	Vickie – 1 (basin)	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel; 5354 Vickie Rd.	Intersects; Adjacent	c. 1964–1966 earthen channel; building more than 45 years old (not previously evaluated)
Mission Bay – MBHS	3-02-101	PB-Olney – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1961, 1963 earthen channel
Mission Bay – Mission Bay Drive	3-02-130	Mission Bay Drive – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1956 earthen channel
Tecolote Creek – Morena	3-04-101	Morena – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	c. 1953–1963 earthen channel
Tecolote Creek – Genesee	3-04-160	Genesee – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel; 3406 Aveley Place	Intersects; Adjacent	c. 1964 earthen channel; building more than 45 years old (not previously evaluated)
San Diego River Watershed																	
Concrete																	
San Diego River – Nimitz	4-01-105	Nimitz – 2	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
San Diego River – Valeta	4-01-120	Valeta – 1	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	1969 concrete channel
San Diego River – Camino del Rio	4-03-101	Camino del Arroyo – 1	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	Pre-1964 concrete channel

Table 5.6-6
Historical Resources Review Matrix

Facility Group Name	Facility Number	Segment Name – Number	Historical Constraint	Excavation (Previous Disturbance) – Equipment In Facility	Excavation (Previous Disturbance) – Equipment Outside Facility	Dredging	Bank Repair (Earthen Channels Only)	Concrete Repair (Major)	Concrete Repair (Minor)	Riprap Replacement	Temporary Access/ Loading, Staging or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand-Removal of Vegetation	Mowing/trimming of Vegetation	Resource	Proximity	Site Description
San Diego River – Camino del Rio	4-03-103	Camino del Rio – 1	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	1961, 1966 concrete channel
Murphy Canyon Creek – Stadium	4-04-002	Stadium – 2	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1963–1974 concrete channel
Murphy Canyon Creek – Stadium	4-04-006	Murphy Canyon – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Alvarado Canyon Creek – Mission Gorge	4-07-002	Mission Gorge – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Alvarado Canyon Creek – Mission Gorge	4-07-004	Mission Gorge – 2	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Alvarado Canyon Creek – Mission Gorge	4-07-009	Mission Gorge – 3	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1965 concrete channel (segment under Waring Road)
Alvarado Canyon Creek – Mission Gorge	4-07-011	Mission Gorge – 4	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1965 concrete channel (segment under Waring Road)
Alvarado Canyon Creek – Alvarado	4-07-023	Alvarado – 2	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Alvarado Canyon Creek – Alvarado	4-07-250	Alvarado – 3	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Murray Reservoir – Cowles Mountain	4-07-901	Cowles Mountain – 1	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1953–1963 concrete channel
Murray Reservoir – Cowles Mountain	4-07-911	Cowles Mountain – 2	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1953–1963 concrete channel
Norfolk Canyon Creek – Fairmount	4-08-008	Fairmount – 1	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1953–1964 concrete channel
Norfolk Canyon Creek – Fairmount	4-08-011	Fairmount – 2	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	1960 concrete channel
Norfolk Canyon Creek – Fairmount	4-08-017	Fairmount – 4	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1953–1964 concrete channel
Norfolk Canyon Creek – Fairmount	4-08-105	Baja – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
1331 Washington	OT03537	1331 Washington	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Facility	Intersects	1947 structural facility

Table 5.6-6
Historical Resources Review Matrix

Facility Group Name	Facility Number	Segment Name – Number	Historical Constraint	Excavation (Previous Disturbance) – Equipment In Facility	Excavation (Previous Disturbance) – Equipment Outside Facility	Dredging	Bank Repair (Earthen Channels Only)	Concrete Repair (Major)	Concrete Repair (Minor)	Riprap Replacement	Temporary Access/ Loading, Staging or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand-Removal of Vegetation	Mowing/trimming of Vegetation	Resource	Proximity	Site Description
1277 Camino Del Rio South	IN10399	1277 Camino Del Rio South	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Facility	Intersects	c. 1966–1974 structural facility
5505 Friars Road	OT05573	5505 Friars Road	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Facility	Intersects	c. 1966–1972 structural facility
1660 Hotel Circle North	O03321	1660 Hotel Circle North	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Facility	Intersects	1969 structural facility
901 Hotel Circle South	HW02440	901 Hotel Circle South	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
2087 Hotel Circle South	HW02437	2087 Hotel Circle South	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Earthen																	
San Diego River – Nimitz	4-01-103	Nimitz – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
San Diego River – Nimitz	4-01-107	Nimitz – 3	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Murphy Canyon Creek – Stadium	4-04-000	Stadium – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Murphy Canyon Creek – Stadium	4-04-008	Murphy Canyon – 2	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	c. 1966–1972 earthen channel
Alvarado Canyon Creek – Alvarado	4-07-021	Alvarado – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Norfolk Canyon Creek – Fairmount	4-08-014	Fairmount – 3	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1960 earthen channel
Norfolk Canyon Creek – Fairmount	4-08-150	Aldine – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	pre-1953 earthen channel

Table 5.6-6
Historical Resources Review Matrix

Facility Group Name	Facility Number	Segment Name – Number	Historical Constraint	Excavation (Previous Disturbance) – Equipment In Facility	Excavation (Previous Disturbance) – Equipment Outside Facility	Dredging	Bank Repair (Earthen Channels Only)	Concrete Repair (Major)	Concrete Repair (Minor)	Riprap Replacement	Temporary Access/ Loading, Staging or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand-Removal of Vegetation	Mowing/trimming of Vegetation	Resource	Proximity	Site Description
Pueblo San Diego Watershed																	
Concrete																	
Washington Canyon Creek – Washington	5-02-153	Washington – 2	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel; 3715 India St.; 3717 India St.; 3731 India St.: 3735 India St.; 3737 India St.; 3741 India St.	Intersects; adjacent	c. 1941–1953 concrete channel; historic properties
Powerhouse Canyon Creek – Pershing	5-03-011	Pershing – 1	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	1964 concrete channel
Powerhouse Canyon Creek – Pershing	5-03-100	Pershing – 2	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	1964 concrete channel
Chollas Creek – National	5-04-006	National – 2	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1953–1964 concrete channel
Chollas Creek – Rolando	5-04-044	Cartagena – 1	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1953–1964 concrete channel
Chollas Creek – Rolando	5-04-046	Rolando – 1	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	1965 concrete channel
Auburn Creek – Home	5-04-227	Home – 3	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	Pre-1963 concrete channel
Chollas Creek– Megan	5-04-260	Megan – 1	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1966 concrete channel
Chollas Creek – 54th St	5-04-280	54th St – 1	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1966–1968 concrete channel
South Chollas Creek – Southcrest	5-05-008	Ocean View – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
South Chollas Creek – Euclid	5-05-021	Euclid – 2	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
South Chollas Creek – Federal	5-05-037	Federal – 2	None	x	x	x	N/A	x	x	x	x	x	x	x	Channel	Intersects	1972 concrete channel
South Chollas Creek Encanto Branch – Imperial	5-05-306	Imperial – 2	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Paleta Creek – Cottonwood	5-06-005	Cottonwood – 1	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	c. 1964 concrete channel

Table 5.6-6
Historical Resources Review Matrix

Facility Group Name	Facility Number	Segment Name – Number	Historical Constraint	Excavation (Previous Disturbance) – Equipment In Facility	Excavation (Previous Disturbance) – Equipment Outside Facility	Dredging	Bank Repair (Earthen Channels Only)	Concrete Repair (Major)	Concrete Repair (Minor)	Riprap Replacement	Temporary Access/ Loading, Staging or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand-Removal of Vegetation	Mowing/trimming of Vegetation	Resource	Proximity	Site Description
Paleta Creek – Cottonwood	5-06-008	Cottonwood – 2	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	1969 concrete channel
Paleta Creek – Solola	5-06-020	Solola – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Paleta Creek – Solola	5-06-023	Solola – 2	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Channel	Intersects	Pre-1974 concrete channel
3644 Roselawn	OTO3694	3644 Roselawn	Yes	x	x	x	N/A	Review	Review	Review	x	x	x	x	Facility	Intersects	1951 structural facility
4202 J Street	HW04013	4202 J Street	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
1206 Goodyear	OT04671	1206 Goodyear	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Earthen																	
Maple Canyon Creek – Maple	5-02-140	Maple – 1 (basin)	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	c. 1966–1974 earthen channel
Washington Canyon Creek – Washington	5-02-151	Washington – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	c. 1941–1953 earthen channel
Mission Hills Canyon Creek – Titus	5-02-162	Titus – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel; 1850 Titus St.	Intersects; Adjacent	c. 1966–1972 earthen channel; building more than 45 years old (not previously evaluated)
San Diego Bay– 28th St	5-03-901	28th St – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	c. 1953–1964 earthen channel
Chollas Creek – National	5-04-004	National – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1954 earthen channel
Chollas Creek – Rolando	5-04-048	Rolando – 2	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1956 earthen channel
Chollas Creek– Martin	5-04-101	Martin – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel; 3463 Martin St.; 3487 Martin St.	Intersects; Adjacent; Adjacent	pre-1953 earthen channel; two buildings more than 45 years old (not previously evaluated)
Chollas Creek – J Street	5-04-163	J St – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel; 425-435 Toyne St.	Intersects; Adjacent	pre-1953 earthen channel; two buildings more than 45 years old

Table 5.6-6
Historical Resources Review Matrix

Facility Group Name	Facility Number	Segment Name – Number	Historical Constraint	Excavation (Previous Disturbance) – Equipment In Facility	Excavation (Previous Disturbance) – Equipment Outside Facility	Dredging	Bank Repair (Earthen Channels Only)	Concrete Repair (Major)	Concrete Repair (Minor)	Riprap Replacement	Temporary Access/ Loading, Staging or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand-Removal of Vegetation	Mowing/trimming of Vegetation	Resource	Proximity	Site Description
																	(not previously evaluated)
Auburn Creek – Home	5-04-220	Home – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Auburn Creek – Home	5-04-224	Home – 2	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1956 earthen channel
Auburn Creek – Home	5-04-229	Home – 4	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1956 earthen channel
Auburn Creek – Home	5-04-231	Home – 5	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1956 earthen channel
Auburn Creek – Wightman	5-04-239	Wightman – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1968 earthen channel
Auburn Creek – Wightman	5-04-241	Wightman – 2	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1968 earthen channel
Auburn Creek – Oakcrest	5-04-245	Oakcrest – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	pre-1972 earthen channel
Chollas Creek– Megan	5-04-262	Megan – 2	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	c. 1953–1964 earthen channel
South Chollas Creek – Southcrest	5-05-006	Alpha – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1959, 1964 earthen channel
South Chollas Creek – Euclid	5-05-019	Euclid – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	c. 1964 earthen channel
South Chollas Creek – Federal	5-05-035	Federal – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
South Chollas Creek Encanto Branch – Castana	5-05-205	Castana – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
South Chollas Creek Encanto Branch – Imperial	5-05-304	Imperial – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	c. 1966–1972 earthen channel
South Chollas Creek Encanto Branch – Jamacha	5-05-603	Jamacha – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
South Chollas Creek Encanto Branch – Jamacha	5-05-606	Jamacha – 2	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
South Chollas Creek Encanto Branch – Jamacha	5-05-610	Jamacha – 3	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	c. 1953 earthen channel
South Chollas Creek Encanto Branch – Jamacha	5-05-702	Lobrico – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channe	Intersects	c. 1968–1971 earthen channel

Table 5.6-6
Historical Resources Review Matrix

Facility Group Name	Facility Number	Segment Name – Number	Historical Constraint	Excavation (Previous Disturbance) – Equipment In Facility	Excavation (Previous Disturbance) – Equipment Outside Facility	Dredging	Bank Repair (Earthen Channels Only)	Concrete Repair (Major)	Concrete Repair (Minor)	Riprap Replacement	Temporary Access/ Loading, Staging or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand-Removal of Vegetation	Mowing/trimming of Vegetation	Resource	Proximity	Site Description
South Chollas Creek Encanto Branch – Jamacha	5-05-802	Cadman – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Paleta Creek – Solola	5-06-025	Cervantes – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	1954 earthen channel
Sweetwater Watershed																	
Concrete																	
Sweetwater River – Parkside	5-11-003	Parkside – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Otay Watershed																	
Concrete																	
Nestor Creek – Nestor	5-22-010	Cedar – 2	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Nestor Creek – Nestor	5-22-013	Dahlia – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Nestor Creek – Nestor	5-22-028	30th St – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Nestor Creek – Outer	5-22-110	Outer – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Earthen																	
Nestor Creek – Nestor	5-22-008	Cedar – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	Pre-1953 earthen channel
Nestor Creek – Nestor	5-22-016	Cerissa – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Nestor Creek – Nestor	5-22-023	Grove – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	c. 1971 earthen channel
Nestor Creek – Outer	5-22-112	Outer – 2	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	Channel	Intersects	c. 1969–1974 earthen channel
Tijuana River Watershed																	
Concrete																	
Tijuana River – Tocayo	6-02-118	Tocayo – 2	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Tijuana River – Smythe	6-03-138	Via Encantadoras – 2	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Tijuana River – Smythe	6-03-143	Via Encantadoras – 3	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Tijuana River – Smythe	6-03-150	Via de la Bandola – 1	None	x	x	x	N/A	x	x	x	x	x	x	x	None		
Earthen																	

Table 5.6-6
Historical Resources Review Matrix

Facility Group Name	Facility Number	Segment Name – Number	Historical Constraint	Excavation (Previous Disturbance) – Equipment In Facility	Excavation (Previous Disturbance) – Equipment Outside Facility	Dredging	Bank Repair (Earthen Channels Only)	Concrete Repair (Major)	Concrete Repair (Minor)	Riprap Replacement	Temporary Access/ Loading, Staging or Stockpiling	Temporary Diversions (Dams, Pumps, Discharge)	Hand-Removal of Vegetation	Mowing/trimming of Vegetation	Resource	Proximity	Site Description
Tijuana River – Pilot & Smugglers	6-01-020	Pilot Channel – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	P-37-025924	Adjacent	Hollister Street Bridge
Tijuana River – Pilot & Smugglers	6-01-100	Smuggler's Gulch – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Tijuana River – Tocayo	6-02-115	Tocayo – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Tijuana River – Smythe	6-03-135	Via Encantadoras – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Tijuana River – Smythe	6-03-147	Smythe – 1	Yes	x	x	x	Review	N/A	N/A	N/A	x	x	x	x	P-37-031491	Intersects	Historic path of Otay Mesa Road
Spring Canyon Creek – Cactus	6-04-251	Cactus – 1 (basin)	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Spring Canyon Creek – Cactus	6-04-253	Cactus – 2 (basin)	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Tijuana River – Siempre Viva	6-05-110	Siempre Viva – 1 (basin)	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		
Tijuana River – La Media	6-06-011	La Media – 1	None	x	x	x	x	N/A	N/A	N/A	x	x	x	x	None		

Notes: x = Activities requiring no further review; Facilities listed as "none" under "Resource" do not require additional evaluation; N/A = not applicable; MBHS = Mission Bay High School; PB = Pacific Beach

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

Issue 2: Would the project result in the disturbance of any human remains, including those interred outside of formal cemeteries?

Project-Level Analysis (FMPs)

Avoiding impacts human remains may be unavoidable in certain circumstances if resources are discovered during construction. Many of the maintenance activities proposed by the MWMP require no ground disturbance. For example, activities include vegetation and graffiti removal, herbicide and rodenticide activities, temporary access/loading, temporary stockpiling, and temporary water diversion would not entail ground disturbance. Therefore, these activities would have low potential to disturb human remains. For proposed ground-disturbing MWMP activities (mechanized vegetation, sediment, and/or debris removal; concrete repair; and bank repair), channels/ditches and basins underwent deep excavation during their construction. Deep excavation would have displaced any archaeological resources or native soils that were present and the likelihood of these activities disturbing human remains is low. Despite previous disturbance of creeks, channels and basins, MWMP maintenance activities that would include ground disturbance have potential to impact human remains and as such would be **potentially significant** (**CR-2**), absent mitigation.

Issue 3: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe?

Project-Level Analysis (FMPs)

A search of the NAHC Sacred Lands File was conducted in 2017 for the MWMP. APE and the NAHC results letter indicated the presence of TCRs within the MWMP APE located on the Imperial Beach and Point Loma Quadrangles. The NAHC included a list of tribal representatives who should be contacted regarding the MWMP. Dudek sent outreach letters to all Native American representatives on the NAHC list to solicit information concerning TCRs within the MWMP APE, and received five responses (outreach letters are included in Appendix F, Cultural Resources Inventory/Evaluation Report). A summary of the responses received to date is as follows:

- The representative from the Agua Caliente Band of Cahuilla Indians claimed that the MWMP APE is not in the Tribe's traditional use area. They have chosen to defer consultation to other tribes in the area.

- The Rincon Band of Luiseño Indians representative stated that the portion of the MWMP APE in Escondido is within the Aboriginal Territory of the Luiseño People; however, the Tribe has no new information to share with Dudek regarding TCRs within the MWMP APE.
- The Viejas Band of Kumeyaay Indians states that the proposed MWMP site has cultural significance to Viejas and requests that a Kumeyaay cultural monitor be present for ground-disturbing activities associated with the MWMP.
- The Jamul Indian Village representative stated that there are TCRs in Imperial Beach and recommends Native American Monitoring in the area.
- Chief legal counsel for the San Luis Rey Band of Mission Indians notified Dudek that the Tribe is aware of TCRs in close proximity to the proposed MWMP APE. She recommends the presence of a Luiseño Native American monitor during ground-disturbing activities. With regard to information they can provide Dudek, the Tribe requested that Dudek contact the Tribe's Cultural Resource Manager, Cami Mojado. To date, no information has been provided to Dudek.

Assembly Bill 52 Consultation

Tribal consultation in accordance with AB 52 was initiated by the City Planning Department in August 2017, concurrent with distribution of the City's Notice of Preparation for an EIR for the MWMP. Consultation requests were received from Lisa Cumper, Tribal Historic Preservation Officer with the Jamul Indian Village, and Clint Linton, Director of Cultural Resources for the Iipay Nation of Santa Ysabel. This early consultation provided an overview of the proposed MWMP, along with locations where maintenance work would be conducted; however, technical analysis had not yet been conducted, and as such, consultation was considered ongoing until such time that additional information could be provided to the tribal representatives. In February 2019, additional information was provided to the tribal representatives, and a subsequent consultation meeting was held to discuss archaeological and tribal cultural resources, and the City's impact analysis methodology. A final consultation meeting was conducted in October 2019 to discuss edits resulting from prior tribal input, impact analysis methodology, and the project-level and programmatic mitigation approach. All comments have been incorporated into the *Cultural Resources Inventory/Evaluation Report* and this EIR section; agreement was reached and consultation was concluded.

5.6.7 PROGRAM-LEVEL ANALYSIS (OTHER MWMP ACTIVITIES)

Programmatic activities would include minor maintenance activities, changed conditions or new/substantially amended FMPs, new compensatory mitigation sites (see Section 5.3, Biological Resources), and emergency maintenance or repair. Under the MWMP, these additional programmatic activities are subject to the review and approval processes outlined in the MWMP.

Some programmatic activities may occur within the 69 facility groups evaluated in Tables 5.6-4 and 5.6-6. For these activities at these locations, a project-level analysis of potential historical and cultural resource impacts has been completed, and Environmental Protocols and mitigation measures would apply. This section deals primarily with programmatic activities outside of the 69 facility groups evaluated in Tables 5.6-4 and 5.6-6.

Regarding Issue 1, all program-level activities within areas of potential archeological and tribal cultural resources could result in adverse physical effects to cultural resources, and impacts would be **potentially significant (CR-1)**, absent mitigation. The exemptions below related to historical review do not automatically apply to archeological resources or tribal cultural resources because these activities, while limited in nature, could result in surface disturbance of artifacts or other resources.

Several program-level activities would be exempt from further historical review regardless of location and the presence of existing historical resources. Exempt program-level activities are listed in Table 5.6-7, Program-Level Activities Exempt from Further Historical Review, and are limited to activities that have a low potential for ground disturbance or other potential alterations or impacts to historic resources. Non-exempt program-level activities at MWMP facilities could entail work within historically sensitive areas. Because specific details about the proposed maintenance activities are not currently known (e.g., exact location, access points, excavation method or depth), non-exempt program-level maintenance activities could potentially impact a known or unknown historic resource. Therefore, non-exempt program-level maintenance activities at specific facilities could result in adverse physical effects to historic resources, and impacts would be **potentially significant** (**HR-1**), absent mitigation.

Table 5.6-7
Program-Level Activities Exempt from Further Historical Review

	Temporary Access/ Loading	Temporary Staging	Temporary Diversions (Dams, Pumps, Discharge)	Hand-Removal of Vegetation	Mowing/ Trimming of Vegetation	Temporary Stockpiling
Exempt	X	X	X	X	X	X

X = Activities requiring no further review are indicated with an "X."

Similar to project-level maintenance activities, program-level maintenance activities requiring ground disturbance may result in impacts to human remains (Issue 2). As previously stated, avoiding impacts human remains may be unavoidable in certain circumstances if resources are discovered during program-level maintenance activities. Therefore, similar to project-level activities, program-

level activities that would include ground disturbance have potential to impact human remains, and impacts would be **potentially significant** (**CR-2**), absent mitigation.

For Issue 3, any information regarding tribal cultural resources discussed during the consultation process, has been incorporated, where applicable in the *Cultural Resources Inventory/Evaluation Report* and this EIR section.

5.6.8 SIGNIFICANCE OF IMPACT

Regarding Issue 1, select project- and program-level maintenance activities in select facilities may require further archaeological and historical review because the extent of disturbance is not fully known and/or specific details about the proposed maintenance activities, such as the final texture applied as part of a concrete repair, is not currently known. Prior to the initiation of maintenance activities, City staff would review the cultural and historical review matrices (see Tables 5.6-4 and 5.6-6) to determine if further review is required. If further review is required, the City would retain a qualified archaeologist to review maintenance activities once these specific details are known. The archaeologist can then determine the potential impacts to resources and recommend the appropriate mitigation measures.

Due to the sensitivity of areas where MWMP facilities are located, project- and program-level maintenance activities may result in **potentially significant** impacts to unknown cultural resources (**CR-1**), absent mitigation. If not properly designed or avoided, project- and program-level maintenance activities could significantly impact known cultural resources (**CR-1**), absent mitigation.

Impacts to historic resources could be **potentially significant** if current maintenance activities change or are augmented (**HR-1**), absent mitigation.

Regarding Issue 2, avoiding impacts to human remains may not be feasible in certain circumstances if resources are discovered during project- and program-level maintenance activities (**CR-2**), absent mitigation. Impacts would be **potentially significant**.

For Issue 3, any information regarding tribal cultural resources discussed during the consultation process has been incorporated, where applicable in the *Cultural Resources Inventory/Evaluation Report* and this EIR section.

5.6.9 MITIGATION MEASURES

Because there is always a potential for encountering a resource during ground-disturbing activities anywhere in the City, such as, but not limited to excavation or debris and/or sediment removal, the procedures established the City's *Whitebook – Standard Specification for Public Works Construction*

(City of San Diego 2015b) shall be implemented. Section 6-3.2.1 of the Whitebook specifically requires that in the event that unanticipated resources such as a Native American, archaeological, and/or paleontological item be identified subsurface, soil disturbance in the area of discovery shall cease until the item is properly evaluated and salvaged. The procedures of the Whitebook shall apply to all maintenance activities at all facilities, including those marked exempt (with an "x") in Table 5.6-4. **MM-CR-1** through **MM-CR-3** may be required for activities that are marked as requiring further review in Table 5.6-4, as determined by a qualified archaeologist's review of the maintenance activity once all details of the maintenance plan are known. **MM-CR-4** is required for non-exempt program-level activities (see Table 5.6-7) in new locations that have not been previously identified in Tables 5.6-4 through 5.6-6. **MM-HR-1** and **MM-HR-2** may be required for activities that are marked as requiring further review in Table 5.6-6, as determined by a qualified architectural historian's review of the maintenance activity once all details of the maintenance plan are known.

MM-CR-1 Cultural Resources Monitoring and Treatment Plan (CRMTP).

I. Prior to Start of Activities Marked as Requiring Further Review in Table 5.6-4, Archaeological Review Matrix, and as Determined Necessary by a Qualified Archaeologist's Review of the Proposed Maintenance Activity

A. Preparation of CRMTP

1. Prior to the start of construction, the Principal Investigator (PI) archaeologist shall prepare a CRMTP that specifies and describes:

- The cultural resources Area of Potential Effect (APE)
- The roles and responsibilities of all parties involved in the monitoring and/or treatment program, including inter-agency relationships for the purposes of compliance with Section 106 of the National Historic Preservation Act (NHPA), California Environmental Quality Act (CEQA), and the City of San Diego (City) Historical Resources Regulations and Historical Resources Guidelines (HRG).
- Reporting protocols
- Construction monitoring methods
- Avoidance and protection measures for all cultural resources
- Procedures for evaluating resource significance, and/or data recovery for significant resources (known and unanticipated discoveries) that cannot be avoided within the linear footprint, unless human remains are encountered and require removal for the purpose of repatriation. City established data recovery

procedures include in-situ recordation, recovery, laboratory analysis, curation and/or repatriation, and reporting.

- Consultation obligations and timelines for providing feedback
- Post-construction requirements

2. The PI shall prepare the draft CRMTP and submit to the City of San Diego Point of Contact for review and to facilitate any stakeholder consultation obligations.

MM-CR-2 **Avoidance of Cultural Resources.** The following measure shall be implemented to protect known archaeological resources that may also be tribal cultural resources (hereafter referred to as "cultural resources") that have not been evaluated for significance or that have been evaluated as significant under Section 106 and CEQA.

I. Prior to Start of Activities Marked as Requiring Further Review in Table 5.6-4, Archaeological Review Matrix, and as Determined Necessary by a Qualified Archaeologist's Review of the Proposed Maintenance Activity

A. Identified cultural resources that have not been evaluated for significance or that have been evaluated as significant under Section 106 of the NHPA and/or CEQA, shall be avoided through project design. These include resources that were either found outside of the work limits or for which significance evaluation did not identify significant archaeological deposits within the work limits.

1. Prior to the start of construction, the Principal Investigator (PI) archaeologist shall ensure that resource-specific avoidance measures are implemented to prevent unanticipated impacts. These measures may include exclusionary fencing, environmentally sensitive area signage, or other measures deemed appropriate and as specified in the CRMTP.

MM-CR-3 **Construction Monitoring.** The following monitoring program shall be implemented to protect unknown archaeological or tribal cultural resources that may be encountered during construction and/or maintenance-related activities.

I. Prior to Permit Issuance or Bid Opening/Bid Award for Activities Marked as Requiring Further Review in Table 5.6-4, Archaeological Review Matrix, and as Determined Necessary by a Qualified Archaeologist's Review of the Proposed Maintenance Activity

A. Entitlements Plan Check

1. Prior to permit issuance or Bid Opening/Bid Award, whichever is applicable, the Environmental Designee (ED) shall verify that the requirements for Archaeological Monitoring and Native American monitoring have been noted on the applicable construction documents through the plan check process.

B. Letters of Qualification have been submitted to ED

1. Prior to Bid Award, the City's Transportation & Storm Water Department (TSW) shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the PI for the project and the names of all persons involved in the archaeological monitoring program, as defined in the City's HRG. If applicable, individuals involved in the archaeological monitoring program must have completed the 40-hour HAZWOPER training with certification documentation.
2. MMC will provide a letter to TSW confirming the qualifications of the PI and all persons involved in the archaeological monitoring of the project meet the qualifications established in the HRG.
3. Prior to the start of work, TSW must obtain written approval from MMC for any personnel changes associated with the monitoring program.

II. Prior to Start of Construction

A. Verification of Records Search

1. The PI shall provide verification to MMC that a site-specific records search (1/4 mile radius) has been completed. Verification includes, but is not limited to a copy of a confirmation letter from South Coastal Information Center, or, if the search was in-house, a letter of verification from the PI stating that the search was completed.
2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.
3. The PI may submit a detailed letter to MMC requesting a reduction to the ¼ mile radius.

B. PI Shall Attend Precon Meetings

1. Prior to beginning any work that requires monitoring; TSW shall arrange a Precon Meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted),

MMC representative, Project Consultant(s), TSW, Construction Manager (CM) (if applicable), Resident Engineer (RE) (if applicable), and other parties of interest. The qualified Archaeologist and Native American Monitor shall attend any grading/excavation related Precon Meetings to make comments and/or suggestions concerning the Archaeological Monitoring program with the Construction Manager and/or Grading Contractor.

a. If the PI is unable to attend the Precon Meeting, TSW shall schedule a focused Precon Meeting with MMC, the PI, RE, or CM, if appropriate, prior to the start of any work that requires monitoring.

2. Acknowledgement of Responsibility for Curation (Capital Improvement Program or Other Public Projects)

   TSW shall submit a letter to MMC acknowledging their responsibility for the cost of curation associated with all phases of the archaeological monitoring program.

3. Identify Areas to be Monitored

   a. Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) (with verification that the AME has been reviewed and approved by the Native American consultant/monitor when Native American resources may be impacted) based on the appropriate construction documents (reduced to 11x17) to MMC identifying the areas to be monitored including the delineation of grading/excavation limits.

   b. The AME shall be based on the results of a site specific records search as well as information regarding the age of existing pipelines, laterals and associated appurtenances and/or any known soil conditions (native or formation).

   c. MMC shall notify the PI that the AME has been approved.

4. When Monitoring Will Occur

   a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring will occur.

   b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as

review of final construction documents which indicate conditions such as age of existing pipe to be replaced, depth of excavation and/or site graded to bedrock, etc., which may reduce or increase the potential for resources to be present.

5. Approval of AME and Construction Schedule

After approval of the AME by MMC, the PI shall submit to MMC written authorization of the AME and Construction Schedule from the CM.

III. During Construction

A. Monitor Shall be Present During Grading/Excavation/Trenching

1. The Archaeological Monitor shall be present full-time during all soil disturbing and grading/excavation/trenching activities which could result in impacts to archaeological resources as identified on the AME. **The Construction Manager is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances OSHA safety requirements may necessitate modification of the AME.**

2. The Native American consultant/monitor shall determine the extent of their presence during soil disturbing and grading/excavation/trenching activities based on the AME and provide that information to the PI and MMC. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop and the Discovery Notification Process detailed in Section III.B-C and IV.A-D shall commence.

3. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present.

4. The archaeological and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSVR). The CSVR's shall be emailed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (**Notification of Monitoring Completion**), and in the case of ANY discoveries. The RE shall forward copies to MMC.

B. Discovery Notification Process

1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil disturbing activities, including but not limited to digging, trenching, excavating or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE, as appropriate.
2. The Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by email with photos of the resource in context, if possible.
4. No soil shall be exported off-site until a determination can be made regarding the significance of the resource specifically if Native American resources are encountered.

C. Determination of Significance

1. The PI and Native American consultant/monitor, where Native American resources are discovered shall evaluate the significance of the resource. If Human Remains are involved, follow protocol in Section IV below.
    a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.
    b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program (ADRP) and obtain written approval of the program from MMC, CM, and RE. ADRP and any mitigation must be approved by MMC, RE, and/or CM before ground disturbing activities in the area of discovery will be allowed to resume. **Note: If a unique archaeological site is also an historical resource as defined in CEQA Section 15064.5, then the limits on the amount(s) that a project applicant may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.**
        (1) Note: For pipeline trenching and other linear projects in the public Right-of-Way, the PI shall implement the Discovery Process for Pipeline Trenching projects identified below under "D."

c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts will be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.

(1) Note: For Pipeline Trenching and other linear projects in the public Right-of-Way, if the deposit is limited in size, both in length and depth; the information value is limited and is not associated with any other resource; and there are no unique features/artifacts associated with the deposit, the discovery should be considered not significant.

(2) Note, for Pipeline Trenching and other linear projects in the public Right-of-Way, if significance cannot be determined, the Final Monitoring Report and Site Record (DPR Form 523A/B) shall identify the discovery as Potentially Significant.

D. Discovery Process for Significant Resources – Pipeline Trenching and other Linear Projects in the Public Right-of-Way

The following procedure constitutes adequate mitigation of a significant discovery encountered during pipeline trenching activities or for other linear project types within the Public Right-of-Way including but not limited to excavation for jacking pits, receiving pits, laterals, and manholes to reduce impacts to below a level of significance:

1. Procedures for documentation, curation and reporting

a. One hundred percent of the artifacts within the trench alignment and width shall be documented in-situ, to include photographic records, plan view of the trench and profiles of side walls, recovered, photographed after cleaning and analyzed and curated. The remainder of the deposit within the limits of excavation (trench walls) shall be left intact.

b. The PI shall prepare a Draft Monitoring Report and submit to MMC via the RE as indicated in Section VI-A.

c. The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) the resource(s) encountered during the Archaeological Monitoring Program in accordance with the City's HRG. The DPR forms shall be submitted to

the South Coastal Information Center for either a Primary Record or SDI Number and included in the Final Monitoring Report.

d. The Final Monitoring Report shall include a recommendation for monitoring of any future work in the vicinity of the resource.

IV. Discovery of Human Remains

If human remains are discovered, work shall halt in that area and no soil shall be exported off-site until a determination can be made regarding the provenance of the human remains; and the following procedures as set forth in CEQA Section 15064.5(e), the California Public Resources Code (Sec. 5097.98) and State Health and Safety Code (Sec. 7050.5) shall be undertaken:

A. Notification

1. Archaeological Monitor shall notify the RE, as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC will notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.
2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

B. Isolate discovery site

1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenience of the remains.
2. The Medical Examiner, in consultation with the PI, will determine the need for a field examination to determine the provenience.
3. If a field examination is not warranted, the Medical Examiner will determine with input from the PI, if the remains are or are most likely to be of Native American origin.

C. If Human Remains **ARE** determined to be Native American

1. The Medical Examiner will notify the Native American Heritage Commission (NAHC) within 24 hours. By law, **ONLY** the Medical Examiner can make this call.
2. NAHC will immediately identify the person or persons determined to be the Most Likely Descendent (MLD) and provide contact information.

3. The MLD will contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the California Public Resources and Health & Safety Codes.
4. The MLD will have 48 hours to make recommendations to the property owner or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.
5. Disposition of Native American Human Remains will be determined between the MLD and the PI, and, if:
    a. The NAHC is unable to identify the MLD, OR the MLD failed to make a recommendation within 48 hours after being granted access to the site, OR;
    b. The landowner or authorized representative rejects the recommendation of the MLD and mediation in accordance with PRC 5097.94 (k) by the NAHC fails to provide measures acceptable to the landowner, the landowner shall reinter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance, THEN
    c. To protect these sites, the landowner shall do one or more of the following:
        (1) Record the site with the NAHC;
        (2) Record an open space or conservation easement; or
        (3) Record a document with the County. The document shall be titled "Notice of Reinterment of Native American Remains" and shall include a legal description of the property, the name of the property owner, and the owner's acknowledged signature, in addition to any other information required by PRC 5097.98. The document shall be indexed as a notice under the name of the owner.
    d. Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the landowner may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and

archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and items associated and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above.

D. If Human Remains are **NOT** Native American

1. The PI shall contact the Medical Examiner and notify them of the historic era context of the burial.
2. The Medical Examiner will determine the appropriate course of action with the PI and City staff (PRC 5097.98).
3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Museum of Man for analysis. The decision for internment of the human remains shall be made in consultation with MMC, EAS, TSW/landowner, any known descendant group, and the San Diego Museum of Man.

V. Night and/or Weekend Work

A. If night and/or weekend work is included in the contract

1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.
2. The following procedures shall be followed.

a. No Discoveries

In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVR and submit to MMC via email by 8AM of the next business day.

b. Discoveries

All discoveries shall be processed and documented using the existing procedures detailed in Sections III - During Construction, and IV – Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery.

c. Potentially Significant Discoveries

If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III - During Construction and IV-Discovery of Human Remains shall be followed.

d. The PI shall immediately contact the RE and MMC, or by 8AM of the next business day to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.

B. If night and/or weekend work becomes necessary during the course of construction

1. The Construction Manager shall notify the RE, as appropriate, a minimum of 24 hours before the work is to begin.

2. The RE, as appropriate, shall notify MMC immediately.

C. All other procedures described above shall apply, as appropriate.

VI. Post Construction

A. Submittal of Draft Monitoring Report

1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the City's HRG (Appendix C/D) which describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC via the RE for review and approval within 90 days following the completion of monitoring. **It should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe as a result of delays with analysis, special study results or other complex issues, a schedule shall be submitted to MMC establishing agreed due dates and the provision for submittal of monthly status reports until this measure can be met.**

a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program or Pipeline Trenching Discovery Process shall be included in the Draft Monitoring Report.

b. Recording Sites with State of California Department of Parks and Recreation

The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's HRG, and submittal of such forms to the South Coastal Information Center with the Final Monitoring Report.

2. MMC shall return the Draft Monitoring Report to the PI via the RE for revision or, for preparation of the Final Report.
3. The PI shall submit revised Draft Monitoring Report to MMC via the RE for approval.
4. MMC shall provide written verification to the PI of the approved report.
5. MMC shall notify the RE, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.

B. Handling of Artifacts

1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued
2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.

C. Curation of artifacts: Accession Agreement and Acceptance Verification

1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.
2. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section IV – Discovery of Human Remains, Subsection C.
3. The PI shall submit the Accession Agreement and catalogue record(s) to the RE, as appropriate for donor signature with a copy submitted to MMC.
4. The RE, as appropriate shall obtain signature on the Accession Agreement and shall return to PI with copy submitted to MMC.
5. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE and MMC.

D. Final Monitoring Report(s)

1. The PI shall submit one copy of the approved Final Monitoring Report to the RE as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC of the approved report.

2. The RE shall, in no case, issue the Notice of Completion until receiving a copy of the approved Final Monitoring Report from MMC which includes the Acceptance Verification from the curation institution

MM-CR-4 **Evaluation of Program-Level Activities.** Prior to the initiation of non-exempt program-level activities in new locations that have not been previously identified in Table 5.6-4, Archaeological Review Matrix; Table 5.6-5, Non-Exempt Activities; and Table 5.6-6, Historical Resources Review Matrix, the activity and specific location shall be evaluated by a qualified PI. The evaluation shall determine (a) the presence (or lack thereof) of archaeological and/or historical resources located within the APE; (b) whether identified resources have been previously evaluated and (c) whether a site visit is necessary to determine the cultural sensitivity and the extent of previous ground disturbance. If determined to be necessary, site visits and related documentation shall be conducted in a manner consistent with the methods employed in the Historical Resources and Cultural Resources Inventory/Evaluation Reports prepared for the MWMP EIR. Based on the results of future archaeological evaluations, the PI (in consultation with the City) shall determine whether additional avoidance and minimization measures, MM-CR-1 through MM-CR-3, and/or MM-HR-1 through MM-HR-2 would be required for the non-exempt program-level activity.

MM-HR-1 **Avoidance of Historical Resources.** Should avoidance of an historical resource be impractical, the following shall be implemented to protect known historical resources that have not been evaluated for significance or that have been evaluated as significant under Section 106 of the National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA):

I. Prior to Start of Activities Marked as Requiring Further Review in Table 5.6-6, Historical Resources Review Matrix, and as Determined Necessary by a Qualified Architectural Historian's Review of the Proposed Maintenance Activity

A. Principal Investigator (PI) Shall Attend Pre-Construction Meetings

1. Prior to beginning any ground-disturbing work, City of San Diego (City) Transportation & Storm Water Department (TSW) shall arrange a pre-construction meeting that shall include the PI, Native American

consultant/monitor (where Native American resources may be impacted), Mitigation Monitoring Coordination (MMC) representative, Project Consultant(s), TSW, Construction Manager (CM) (if applicable), Resident Engineer (RE) (if applicable), and other parties of interest. The principal investigator, or his/her designated representative, shall attend any ground-disturbance related preconstruction meetings to ensure that the proposed maintenance activity is exempt from further historical resource review.

MM-HR-2 **Recording and Evaluation of Historic Properties.** Should avoidance of a historic property be impractical, the following shall be implemented to document and evaluate historical resources pursuant to Section 106 of the NHPA and CEQA, and City Historical Resources Guidelines (HRG).

I. Prior to Start of Activities Marked as Requiring Further Review in Table 5.6-6, Historical Resources Review Matrix, in Section 5.6, Historical, Archaeological, and Tribal Cultural Resources, of the EIR and as Determined Necessary by a Qualified Architectural Historian's Review of the Proposed Maintenance Activity

   A. For identified historical resources that have not been documented or evaluated for significance pursuant to Section 106 of NHPA and CEQA.

      1. A qualified Architectural Historian shall document and evaluate identified historical resources prior to the commencement of construction/maintenance activities. Documentation and evaluation shall be presented in an Historical Resources Technical Report as defined by the City of San Diego Historical Resources Board.

      2. Documentation of historical resources shall be done on the appropriate California Department of Parks and Recreation (DPR) 523 forms, and shall include a significance evaluation. DPR 523 forms shall be appended to the Historical Resources Technical Report.

      3. DPR 523 forms shall be submitted to the State Historic Preservation Office (SHPO) for concurrence.

      4. After SHPO concurrence, the DPR forms shall be submitted to the South Coastal Information Center (SCIC).

   B. For identified historical resources previously documented and/or evaluated for significance pursuant to Section 106 of NHPA and CEQA

1. A qualified Architectural Historian shall update existing DPR 523 forms for previously identified and documented historical resources prior to the commencement of maintenance activities.
2. Updated DPR 523 forms with new or revised significance evaluations will be submitted to the SHPO for concurrence.
3. After SHPO concurrence, the updated DPR forms will be submitted to the SCIC.

5.6.10 SIGNIFICANCE AFTER MITIGATION

Regarding Issue 1, with implementation of Mitigation Measures **MM-CR-1**, **MM-CR-2**, and **MM-CR-3**, impacts to unknown archaeological resources, TCRs, grave sites, and/or religious or sacred uses (and known cultural resources that have not been evaluated or have been identified as recommended eligible) would be reduced to **less than significant**. **MM-CR-4** would be implemented when non-exempt program-level activities are proposed in new locations that were not previously identified in Tables 5.6-4 through 5.6-6. With implementation of **MM-CR-4**, impacts to archaeological and historical resources from non-exempt program activities in new locations would be reduced to **less than significant**.

With implementation of Mitigation Measures MM-HR-1 and MM-HR-2, impacts to historical resources due to changed and/or altered maintenance activities not currently identified in the MWMP would be reduced to **less than significant**.

Regarding Issue 2, with implementation of Mitigation Measure **MM-CR-1** and **MM-CR-2**, impacts to human remains due to ground-disturbing MWMP maintenance activities would be **less than significant.**

Regarding Issue 3, with implementation of **MM-CR-1**, **MM-CR-2**, and **MM-CR-3**, impacts to TCRs, grave sites, religious or sacred uses, and human remains (and known cultural resources that have not been evaluated or have been identified as recommended eligible) would be reduced to **less than significant**. **MM-CR-4** would be implemented when non-exempt program-level activities are proposed in new locations that were not previously identified in Tables 5.6-4 through 5.6-6. With implementation of **MM-CR-4**, potential impacts to TCRs, grave sites, sacred uses, and human remains (and known cultural resources that have not been evaluated or have been identified as recommended eligible) from non-exempt program activities in new locations would be reduced to **less than significant**.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

5.7 HYDROLOGY

5.7.1 INTRODUCTION

This section describes the existing hydrological and hydraulic setting of the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP) area; identifies the applicable regulatory framework; describes the approach and methodology for the analysis; evaluates potential impacts associated with hydrology and hydraulics that would result from the proposed MWMP; identifies mitigation measures, if necessary, to reduce the level of impact associated with implementation of the proposed MWMP; and identifies the level of significance after any mitigation. Information in this section is from the *Hydrology and Hydraulics Technical Report* for the MWMP, included as Appendix I; Facility Maintenance Plans, which are an appendix to the MWMP; maps and data from Project Clean Water (2018); and published information from San Diego area Watershed Management Area Responsible Agencies.

For additional information regarding water quality resources, refer to Section 5.12, Water Quality, and the Water Quality Technical Report (Appendix J) of this Environmental Impact Report.

5.7.2 EXISTING CONDITIONS

This section describes the regional climate, topography, soils, and surface water and groundwater hydrology of the MWMP area, which lies within the southern coastal portion of the San Diego region.

General Setting

The topography of the San Diego region includes mountain-valley areas to the east that slope gently westward into coastal plains. In the east, the Palomar, Volcan, Cuyamaca, and Laguna mountains make up the southern portion of the northwest-trending Peninsular Range. In the west, the coastal plain area includes a series of wave-cut benches covered by thin terrace deposits. This area extends from the coast inland in a band of approximately 10 miles wide, with elevations ranging from sea level to 1,200 feet. The coastal plain has been incised by numerous side canyons flowing into major creeks and rivers that generally flow westward toward the coast. Development is concentrated on flat mesas and valleys interspersed with natural and urbanized canyon areas. The MWMP area lies primarily within the coastal plain area. Approximately 82% of the coastline in San Diego County, approximately 70 miles, is located within the MWMP area (City of San Diego 2018a).

The San Diego region has a mild Mediterranean climate. Annual temperatures average approximately 65°F, and annual precipitation averages 10 to 13 inches (Western Region Climate Center 2018a). Most of the precipitation falls October through April. Runoff flows generally westward through 13 major stream systems that flow to the Pacific Ocean. A portion of the streams of the San Diego region are interrupted

by dams and have both perennial and ephemeral components due to the rainfall pattern and the development of surface water impoundments (City of San Diego 2018a). A perennial stream has continuous flow in parts of its streambed year-round during years of normal rainfall, and an ephemeral stream flows for only hours or days following rainfall.

The City contains approximately 450 miles of streams in the central and southern coastal areas of San Diego County. The City is bounded by Mexico to the south and the Pacific Ocean to the west. The City is the largest in San Diego County, with a total area of approximately 342 square miles and a population of approximately 1.3 million residents (City of San Diego 2018b). The City's municipal separate storm sewer system (MS4 or storm water system) is distributed throughout the metropolitan area. In general, the MS4 conveys storm water runoff from natural and developed areas to receiving waters. The City's MS4 system is an interconnected system of constructed drains, pipes, and engineered channels that discharge to natural drainages and receiving waters (City of San Diego 2018a). The MWMP program area encompasses these drainage facilities within the City's jurisdictional area.

Watersheds

This section describes the MWMP area's watersheds and surface hydrology. A watershed is an area of land that drains rainfall runoff and streams to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel. The terms "watershed," "drainage basin," and "catchment" can be used interchangeably, and can often be identified differently for the same site, depending on the scale of interest. The *Water Quality Control Plan* for the San Diego Basin identifies watersheds using the terms Hydrologic Unit (HU) and Watershed Management Area (WMA) (RWQCB 2016a). The HUs are made of one or more watersheds based on drainage boundaries defined by the U.S. Geological Survey (USGS 2017). The regional HUs are placed within 10 WMAs (RWQCB 2016a).

The City's jurisdiction spans the boundaries of six WMAs: San Dieguito River, Los Peñasquitos, Mission Bay, San Diego River, San Diego Bay, and Tijuana River WMAs (Table 5.7-1). However, the Los Peñasquitos and Mission Bay WMAs are within the same Los Peñasquitos HU, and the San Diego Bay WMA includes the Pueblo, Sweetwater, and Otay HUs. Drainage facilities covered within the proposed MWMP are distributed throughout the six WMAs. In other sections, eight watersheds that include a combination of WMAs and HUs are used; however, because hydrology-related regulatory documents align with WMAs, the discussion in this section is organized based on WMA. The watersheds and associated major water bodies are shown in Figure 3-2, Vicinity Map, in Chapter 3, and are described further in the following sections. More detailed information on the WMAs is included in the *City of San Diego MWMP Water Quality Technical Report* (Appendix J).

Table 5.7-1
City of San Diego Watershed Management Areas

Watershed Management Area	Hydrologic Unit or Watershed	Major Surface Water Bodies
San Dieguito River	San Dieguito (905)	• San Dieguito River • San Dieguito Lagoon • Pacific Ocean
Los Peñasquitos	Los Peñasquitos (906)	• Los Peñasquitos Lagoon • Pacific Ocean
Mission Bay		• Mission Bay • Pacific Ocean • San Diego Marine Life Refuge Area of Special Biological Significance
San Diego River	San Diego River (907)	• San Diego River • Pacific Ocean
San Diego Bay	Pueblo San Diego (908) Sweetwater (909) Otay (910)	• Chollas Creek • Sweetwater River • Otay River • San Diego Bay • Pacific Ocean
Tijuana River	Tijuana River (911)	• Tijuana River • Tijuana Estuary • Pacific Ocean

San Dieguito River WMA

The San Dieguito River WMA encompasses 346 square miles, with approximately 43 square miles in the City's jurisdiction. The San Dieguito River WMA extends from the Volcan Mountains in the east to the San Dieguito Lagoon and Pacific Ocean in the west. This WMA lies in the central-western portion of San Diego County, and is the northernmost watershed in the program area. The San Dieguito WMA neighbors the Los Peñasquitos and San Diego WMAs to the south. Drainage facilities covered within the proposed MWMP are only located within one subdrainage (i.e., Green Valley Creek) of this WMA (Responsible Agencies San Dieguito Watershed Management Area 2015) (Figure 4-2a, San Dieguito River Watershed, in Chapter 4, Project Description).

Rainfall in the area drains east to west through the San Dieguito River. The water discharges into Lake Hodges and San Dieguito Lagoon, which leads to the Pacific Ocean near the cities of Del Mar and Solana Beach. The San Pasqual Academy Wastewater Treatment Plant contributes to the flow of the main rivers and creeks (RWQCB 2016b).

Communities within the San Dieguito River WMA receive potable water from several reservoirs, including Lake Hodges and Sutherland Reservoir. A summary of WMA community and land use information is provided in Table 5.7-2. Approximately 63% of the land is currently undeveloped or designated as open space, with the majority of that located in the northeastern portion of the WMA and immediately inland of the San Dieguito Lagoon. Residential communities are located primarily in the western and southern portions of the WMA, several isolated commercial areas are present near the coast and in the west-central portion of the WMA, and numerous areas of agriculture are located in the east-central portions of the WMA (Responsible Agencies San Dieguito Watershed Management Area 2015).

Table 5.7-2
San Dieguito River Watershed Management Area Summary Information

Watershed Size	346 square miles
Approximate Population	178,000
Communities and Cities	• Del Mar • Solana Beach • Fairbanks Ranch • Rancho Peñasquitos • Rancho Bernardo • Del Dios • Poway • San Pasqual • Ramona • Santa Ysabel
Responsible Agencies	• City of Del Mar • City of Escondido • City of Poway • City of San Diego • City of Solana Beach • County of San Diego
Land Uses	• Vacant or Undeveloped (39%) • Open Space or Recreation (24%) • Residential (18%) • Agriculture (14%) • Freeway, Road, or Transportation (3%) • Water (<1%) • Office (<1%) • Commercial (<1%) • Industrial (<1%)

Source: Responsible Agencies San Dieguito Watershed Management Area 2015.

Los Peñasquitos WMA

The Los Peñasquitos WMA encompasses 94 square miles, with approximately 65 square miles in the City's jurisdiction. The Los Peñasquitos WMA begins near the City of Poway in the east and drains west to Los Peñasquitos Lagoon and the Pacific Ocean. The Los Peñasquitos WMA lies in central San Diego County, with the San Dieguito River WMA to the north and the Mission Bay and San Diego River WMAs to the south. Small finger canyons drain into three main creeks (Carmel Valley Creek, Los Peñasquitos Creek, and Carroll Canyon Creek) that lead into Los Peñasquitos Lagoon and ultimately the Pacific Ocean near the City of Del Mar. In addition to drainage facilities in the lagoon area, drainage facilities covered within the MWMP area are located within three primary subdrainages of this WMA: Los Peñasquitos Creek, Carroll Canyon Creek, and Soledad Canyon Creek (Responsible Agencies Los Peñasquitos Watershed Management Area 2015) (Figure 4-2b, Los Peñasquitos Watershed, in Chapter 4). The North City Water Reclamation Plant contributes to the flow of the main rivers and creeks (RWQCB 2003).

Potable water for local use is drawn from the Miramar Reservoir. A summary of WMA community and land use information is provided in Table 5.7-3. Approximately 46% of the land is currently undeveloped or designated as open space and is located primarily along Los Peñasquitos Creek, within the Carmel Valley, and in the upper portions of the WMA. Industrial parks are primarily located in the Carroll Canyon and upper Los Peñasquitos subwatersheds, residential communities are spread throughout the WMA, and isolated pockets of agricultural land use are located throughout the WMA (Responsible Agencies Los Peñasquitos Watershed Management Area 2015).

Table 5.7-3
Los Peñasquitos Watershed Management Area Summary Information

Size	94 square miles
Approximate Population	260,000
Communities and Cities	• Torrey Pines • Del Mar • Carmel Valley • Sorrento Valley • Mira Mesa • Rancho Peñasquitos • Carmel Mountain • Sabre Springs • Poway
Responsible Agencies	• City of Del Mar • City of San Diego • County of San Diego

Table 5.7-3
Los Peñasquitos Watershed Management Area Summary Information

	• California Department of Transportation (Caltrans) (voluntary participant)
Land Uses	• Open Space (33%) • Residential (27%) • Vacant or Undeveloped (13%) • Freeways, Roads, or Transportation (12%) • Industrial or Office (11%) • Commercial (2%) • Agriculture (<1%) • Water (<1%)

Source: Responsible Agencies Los Peñasquitos Watershed Management Area 2015.

Mission Bay WMA

The Mission Bay WMA encompasses 64 square miles, with approximately 62 square miles in the City's jurisdiction. The Mission Bay WMA begins east of Interstate 15 in central San Diego County and drains west to Mission Bay. The Los Peñasquitos WMA lies to the north and San Diego River WMA to the south. Rose Canyon, San Clemente Canyon, Tecolote Creek, and smaller canyons carry runoff downstream to Mission Bay and the Pacific Ocean. Rose Creek was diverted east and channelized in the first half of the 20th century. Drainage facilities covered within the proposed MWMP are located within Tecolote Creek, the northern portion of Mission Bay, Torrey Pines, and Alta La Jolla (Figure 4-2c, Mission Bay Watershed, in Chapter 4). The San Diego Marine Life Refuge Area of Special Biological Significance is located downstream of this WMA (Responsible Agencies Mission Bay Watershed Management Area 2016).

A summary of this WMA community and land use information is provided in Table 5.7-4. Approximately 38% of the land is currently undeveloped or designated as open space, encompassing much of the eastern portion of the WMA surrounding Miramar Naval Air Station and the community of Scripps Ranch. Several areas of industrial and office land uses are also present in the eastern portion of the WMA. Residential communities with interspersed office/industrial parks and open space are present throughout most of the western WMA (Responsible Agencies Mission Bay Watershed Management Area 2016).

Table 5.7-4
Mission Bay Watershed Management Area Summary Information

Size	64 square miles
Approximate Population	232,000

Table 5.7-4
Mission Bay Watershed Management Area Summary Information

Communities	• La Jolla • Pacific Beach • University City • Clairemont Mesa • Miramar
Responsible Agencies	• City of San Diego • Caltrans (voluntary participant)
Land Uses	• Open Space (31%) • Residential (28%) • Freeways, Roads, or Transportation (16%) • Industrial or Office (11%) • Vacant or Undeveloped (7%) • Industrial (3%) • Commercial (3%) • Agriculture (<1%) • Water (<1%)

Source: Responsible Agencies Mission Bay Watershed Management Area 2016.

San Diego River WMA

The San Diego River WMA encompasses 434 square miles in central San Diego County, with approximately 73 square miles in the City's jurisdiction. The Los Peñasquitos and San Dieguito WMAs lie to the north, and the San Diego Bay WMA is to the south. The San Diego River originates in the Cuyamaca Mountains near Santa Ysabel, more than 6,000 feet above sea level along the western border of Anza Borrego Desert State Park, and extends more than 52 miles across central San Diego County. The river traverses Mission Valley and ultimately discharges into the Pacific Ocean in Ocean Beach, a community within the City. The San Diego River was altered to its present course in 1977 by the introduction of a dam and straightening of the channel to the ocean. Drainage facilities covered within the proposed MWMP are located primarily within three subdrainages (Alvarado Canyon Creek, Norfolk Canyon Creek, and Murphy Canyon Creek), San Diego River, and several other small subdrainages along the San Diego River (Responsible Agencies San Diego River Watershed Management Area 2016) (Figure 4-2d, San Diego River Watershed, in Chapter 4).

The San Diego River WMA is the most populated of the WMAs, with the majority of the population and development occurring in the lower watershed. Potable water for local use is drawn from Lake Murray, Lake Jennings, San Vicente, El Capitan, and Cuyumaca reservoirs. A summary of WMA community and land use information is provided in Table 5.7-5. Approximately 67% of the land is currently undeveloped or designated as open space, with the majority of that located in the upper WMA. Residential and spaced

residential land uses comprise the majority of the lower portions of the San Diego River WMA (Responsible Agencies San Diego River Watershed Management Area 2016).

Table 5.7-5
San Diego River Watershed Management Area Summary Information

Size	434 square miles
Approximate Population	520,000
Responsible Agencies	• City of El Cajon • City of La Mesa • City of San Diego • City of Santee • County of San Diego • Caltrans (voluntary participant)
Land Uses	• Vacant or Undeveloped (44%) • Open Space (23%) • Residential and Spaced Rural Residential (19%) • Transportation (6%) • Agriculture (<2%) • Commercial (<2%) • Commercial Recreation (<2%) • Industrial (<2%) • Military (<2%) • Public Facility (<2%) • Water (<2%)

Source: Responsible Agencies San Diego River Watershed Management Area 2016.

San Diego Bay WMA

The San Diego Bay WMA encompasses approximately 444 square miles, with approximately 60 square miles in the City's jurisdiction. The San Diego Bay WMA begins approximately 6,000 feet above sea level in the Laguna Mountains to the east, draining more than 50 miles west to San Diego Bay and the Pacific Ocean. The San Diego Bay WMA is the largest in San Diego County and neighbors the San Diego River WMA to the north and the Tijuana River WMA to the south. The San Diego Bay WMA includes the Pueblo, Sweetwater, and Otay HUs. Drainage facilities covered within the Pueblo San Diego Watershed portion of the proposed MWMP are located primarily within seven main subdrainages (Powerhouse Canyon Creek, Auburn Creek, Chollas Creek, South Chollas Creek, Paleta Creek, Nestor Creek, and Sweetwater River), but are also located within the smaller Mission Hills Canyon Creek, Washington Canyon Creek, Maple Canyon Creek subdrainages (Figure 4-2e, Pueblo San Diego Watershed, in Chapter 4). Drainage facilities covered within the Sweetwater Watershed portion of the proposed MWMP are located only within the Sweetwater River (Figure 4-2f, Sweetwater Watershed, in Chapter 4). Drainage facilities covered within the Otay Watershed portion

of the proposed MWMP are located within Nestor Creek (Figure 4-2g, Otay Watershed, in Chapter 4) (Responsible Agencies San Diego Bay Watershed Management Area 2016).

Portions of Chollas Creek, the largest creek in the Pueblo San Diego HU, have had its length armored or channelized. The Sweetwater River is interrupted by three dams: the Palo Verde Dam, Loveland Dam, and Sweetwater Dam. The Otay River includes two dams: Savage Dam and Upper Otay Dam. The Point Loma Wastewater Treatment Plant and the Descanso Detention Facility Wastewater Treatment Plant contribute to the flow of the main rivers and creeks (Responsible Agencies San Diego Bay Watershed Management Area 2016).

Potable water for local use is drawn from Chollas Lake, Sweetwater, Loveland, and Upper and Lower Otay reservoirs. A summary of WMA community and land use information is provided in Table 5.7-6. Approximately 58% of the San Diego Bay WMA, primarily the eastern portion of the WMA, is composed of vacant/undeveloped land. The western portion of the WMA is composed primarily of residential, retail or office, industrial, transportation, and miscellaneous (approximately 42%) (Responsible Agencies San Diego Bay Watershed Management Area 2016).

Table 5.7-6
San Diego Bay Watershed Management Area Summary Information

Size (square miles)	444
Approximate Population	1,030,000
Responsible Agencies	• City of Chula Vista • City of Coronado • City of Imperial Beach • City of La Mesa • City of Lemon Grove • City of National City • City of San Diego • San Diego Unified Port District • San Diego County Regional Airport Authority • County of San Diego • Caltrans (voluntary participant)
Land Use	• Vacant or Undeveloped (58%) • Residential, Retail or Office, Industrial, Transportation, and Miscellaneous (42%)

Source: Responsible Agencies San Diego Bay Watershed Management Area 2016.

Tijuana River WMA

The Tijuana River WMA is the farthest south in San Diego County, straddling the international border between the United States and Mexico and encompassing 1,750 square miles. Approximately 27%,

or 467 square miles, are in the United States portion of the WMA, and approximately 22 square miles of that are under the City's jurisdiction. Two main tributaries feed the 120-mile-long Tijuana River: one beginning in the Laguna Mountains in the United States, and the other upstream of the Abelardo L. Rodriguez Dam in Mexico. Drainage facilities covered within the proposed MWMP are located primarily within the lower Tijuana River subdrainages, with one additional facility located within the Spring Canyon Creek subdrainage (Figures 4-2h.1 and 4-2h.2, Tijuana River Watershed, in Chapter 4) (Responsible Agencies Tijuana River Watershed Management Area 2016).

Water originating from the Abelardo L. Rodriguez Dam flows in a concrete channel to the international border. The Tijuana River drains through the community of San Ysidro to the Tijuana Estuary and Pacific Ocean through the Tijuana River Valley on the United States side of the border. The Tijuana River National Estuarine Research Reserve, a major habitat preserve, is located within the estuary (Responsible Agencies Tijuana River Watershed Management Area 2016).

The South Bay International Wastewater Treatment Plant, South Bay Water Reclamation Plant, Pine Valley Wastewater Treatment Plant, and Rancho del Campo Wastewater Treatment Plant contribute to the flow of the main rivers and creeks. Treated and untreated wastewater from Mexico also contributes to the flow of the watershed. In large storm events, treatment capacity at certain wastewater treatment plants may be exceeded and wastewater flows may bypass the treatment process to discharge to the river (Responsible Agencies Tijuana River Watershed Management Area 2016).

Historically, potable water for local use in the United States has been drawn from Moreno Reservoir and Barrett Lake. Due to ongoing drought, less water has been available in recent years. A summary of WMA community and land use information is provided in Table 5.7-7. Approximately 84% of the land within the United States portion is currently undeveloped or designated open space, with the remaining areas are primarily low-density residential. The watershed is significantly more urbanized in Mexico than in the United States portion (Responsible Agencies Tijuana River Watershed Management Area 2016).

Table 5.7-7
Tijuana Watershed Management Area Summary Information

Size (square miles)	1,750 total; 467 in United States Portion
Approximate United States Population	83,000
Responsible Agencies	• City of Imperial Beach • City of San Diego • County of San Diego

Table 5.7-7
Tijuana Watershed Management Area Summary Information

Size (square miles)	1,750 total; 467 in United States Portion
Land Use	• Vacant or Undeveloped (58%) • Open Space, Parks, or Preserve Areas (26%) • Residential (10%) • Agriculture (2%) • Freeway (1%) • Commercial (<1%) • Industrial (<1%) • Military (<1%)

Source: Responsible Agencies Tijuana River Watershed Management Area 2016.

5.7.3 REGULATORY SETTING

The City is subject to federal, state, and local/regional requirements. The following sections summarize the hydrology regulatory setting for the City.

Federal

National Flood Insurance Program

The National Flood Insurance Program is implemented by the Federal Emergency Management Agency (FEMA). The primary purpose of the program is to reduce the impact of flooding on private and public structures. This priority is accomplished in two ways: by providing affordable insurance to property owners and by encouraging communities to adopt and enforce floodplain management regulations to mitigate the effects of flooding on new and improved structures. This program protects all waters, but has special responsibility for wetlands, riparian areas, and headwaters because these water bodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs (FEMA 2018).

Local

City Storm Water Runoff and Drainage Regulations

Drainage regulations are enforced under Land Development Code Sections 142.0201 through 142.0230 (Article 2: General Development Regulations, Division 2: Storm Water Runoff and Drainage Regulations) and Sections 143.0145 and 143.0146 (Article 3: Supplemental Development Regulations, Division 1: Environmentally Sensitive Lands Regulations). The primary purposes of drainage regulations are to regulate the development of, and impacts to, drainage facilities; to limit water quality impacts from development; to minimize hazards due to flooding while minimizing the

need for construction of flood control facilities; to minimize impacts to environmentally sensitive lands; to implement the provisions of federal and state regulations; and to protect the public health, safety, and welfare. The drainage regulations apply to all development in the City, whether or not a permit or other approval is required.

City of San Diego Drainage Design Manual

The primary purpose of the City of San Diego Drainage Design Manual, dated January 2017, is to provide policies and procedures to secure standardization of drainage design throughout the City. The manual establishes design standards and design procedures for storm water conveyance and hydrology analysis for flood management and water quality facilities in the City (City of San Diego 2017).

5.7.4 THRESHOLDS OF SIGNIFICANCE

The *City of San Diego's California Environmental Quality Act (CEQA) Significance Determination Thresholds* (City of San Diego 2016) and Appendix G of the CEQA Guidelines contain significance guidelines related to hydrology. The following questions are from the City's Significance Thresholds provide guidance to determine potential significance for hydrology impacts:

Issue 1: Would the project result in substantial increase in impervious surfaces and associated runoff?

Issue 2: Would the project result in alteration to on- and off-site drainage patterns due to changes in runoff flow rates or volumes?

In general, potential significant impacts to hydrology may occur if facility maintenance activities would result in increases in surface runoff or modification to existing drainage patterns such that flooding or downstream erosion results. Hydrology and hydraulics analysis, including the analysis of drainage area, conveyance configuration, capacity, and flow velocity, is used to support the evaluation of facility-specific impacts to surface runoff, flooding, and erosion/sedimentation. The MWMP includes facility-specific hydrology and hydraulic analyses (Appendix I). The City's CEQA Significance Thresholds and facility-specific hydrology and hydraulic analysis results were used to organize the analysis of hydrology impacts to address the two main issues identified above.

5.7.5 APPROACH AND METHODOLOGY

The activities proposed in the MWMP were developed with the goal of avoiding and minimizing potential erosion. As such, the following Environmental Protocol (EP) is identified as part of the proposed MWMP because these specific proposed activities serve to reduce such impacts.

Environmental Protocol

EP-HYD-1 **Post-Maintenance Erosion Control.** For facility segments in which velocities in the recommended maintenance condition are greater than the pre-maintenance condition and greater than recommended permissible velocities, post-maintenance erosion control measures shall be implemented, including check dams or other similar velocity-reduction structures. The facilities identified to need potential post-maintenance erosion control measures include the following:

- Los Peñasquitos Canyon Creek (Black Mountain 1 and 2)
- Soledad Canyon Creek (Dunhill 1)
- Tecolote Creek (Genesee 1)
- Alvarado Canyon Creek (Mission Gorge 3, Alvarado 1)
- Norfolk Canyon Creek (Baja 1)
- Washington Canyon Creek (Washington 1)
- Chollas Creek (Martin 1, Megan 2, Rolando 2)
- Auburn Creek (Wightman 1 and 2, Home 1)
- South Chollas Creek (Alpha 1)
- South Chollas Creek Encanto Branch (Castana 1, Jamacha 1)

If additional facilities are identified with a greater than recommended permissible velocity due to maintenance, they will follow the same criteria outlined in the approved *Hydrology and Hydraulics Technical Report*.

Prior to the start of maintenance activities within these facilities, the City of San Diego Transportation & Storm Water Department (TSW) shall prepare a site-specific maintenance plan prepared by a Professional Engineer that includes all information concerning the post-maintenance erosion-reduction goals and requirements, such as timing of installation, installation specifications, performance/assessment criteria, inspection schedule (by consultant or TSW staff), documentation of submittals, and reporting schedule. Post-maintenance erosion control measures assessment criteria include structural integrity and compliance with permit and site conditions. Additional criteria include appraisals of standing water, evidence of localized erosion, and/or sediment, trash and/or debris accumulation to assess whether the measures are functional and meet intended purpose. Post-maintenance erosion control measures

shall be in conformance with the Facility Maintenance Plans for post-maintenance erosion control included as Appendix A-4 of the *Municipal Waterways Maintenance Plan*.

At a minimum, an evaluation process shall be completed following the rainy season (i.e., November through April) to verify that the erosion control measures are effective and in serviceable condition. The evaluation process shall be conducted by qualified personnel and use observations of channel properties to allow comparison of facility conditions to site-specific performance/assessment criteria, erosion and sedimentation indicators (i.e., scour, sediment deposition, or bank erosion), and vegetation assessments. In the event that substantial erosion has occurred, erosion-impacted areas shall be identified for corrective action prior to the following rainy season. Monitoring, reporting, and repair work shall be approved and documented by TSW. Post-maintenance erosion control measures shall be evaluated for a minimum of 12 months and up to 24 months to ensure reduction in erosion risk to, at a minimum, pre-maintenance conditions.

5.7.6 IMPACTS

As described in Chapter 4, Project Description, the MWMP provides a description of maintenance and repair activities and supporting implementation methods. The majority of these activities are routine and anticipated to occur in conformance with specific Facility Maintenance Plans (FMPs) included in the MWMP (Appendix A). Routine refers to typical activities that occur on a regular, ongoing basis and are associated with maintaining storm water infrastructure. However, additional activities not identified in an FMP may be required and may occur anywhere within the City's storm water conveyance system.

Potential site-specific impacts associated with implementation of MWMP activities and methods as identified in the FMPs are described below under "Project-Level Analysis (FMPs)" for each of the issues identified. As further detailed in Chapter 4, Project Description, MWMP activities consist of maintenance and repair activities. Maintenance activities include vegetation and invasive plant species management, sediment/debris removal, structural/debris/trash-fence clearing, and culvert clearing. Repair activities include concrete (minor and major) and bank repair, and structural/debris/trash-fence repair.

Potential impacts associated with implementation of additional MWMP activities and methods (e.g., minor maintenance, changed conditions/new or substantially amendment FMPs, compensatory mitigation sites, and emergency maintenance) are identified under Section5.7.7, Program-Level Analysis (Other MWMP Activities). These impacts are analyzed to the extent feasible at this time;

however, additional project-level CEQA analysis and/or new or amended permits may be required prior to implementation.

Issue 1: Would the project result in a substantial increase in impervious surfaces and associated runoff?

Project-Level Analysis (FMPs)

Proposed project-level maintenance activities would not result in a substantial increase in impervious surfaces or associated runoff. Watershed area and imperviousness are the main factors that determine the amount of surface runoff and flow rate. Facility maintenance activities would not increase impervious areas within the facilities or in other areas within the surrounding watersheds. Project-level MWMP maintenance activities would consist primarily of the removal of sediment and management of vegetation within facilities.

Maintenance activities that result in the installation of impervious materials would be limited to the repair or replacement of existing concrete-lined facilities and riprap areas. As a result, MWMP maintenance activities would not change the flow rate or amount of surface runoff in the facility, since maintenance would not affect the contributing watershed area or the amount of impervious area within the watershed. Impacts as a result of project-level maintenance would be **less than significant**, and no mitigation is required.

Issue 2: Would the project result in substantial alteration to on- and off-site drainage patterns due to changes in runoff flow rates or volumes?

Project-Level Analysis (FMPs)

Alteration to on-site and off-site drainage patterns may be generally classified to result in two classifications of impact. Facility maintenance has the potential to increase the conveyance capacity and velocity of flow in the facilities, which has the potential to reduce flood risk. Similarly, changes to channel geometry and hydraulics from maintenance activities, although occurring within an existing facility, could result in increased flow velocities above a critical level that could cause flows that are erosive to earthen-bottom facilities and cause potential transport of sediment to downstream areas. Facility-specific analysis for earthen-bottom facilities conducted as part of the MWMP was limited to the upstream and downstream domain of analysis. Disruptions to natural watershed processes, including stream channel meandering and evolution through the straightening and channelization of portions of the City's drainage network, may influence the domain of analysis and further impact flooding and long-term erosive processes. Some facilities may be located within a Special Flood Hazard Area, which includes floodways identified in the FEMA Flood Insurance Study and associated Flood Insurance Rate Maps. The facility-specific analysis used flow rate and water surface elevation

data from the Flood Insurance Study, and potential maintenance in these areas is intended to maintain the hydraulic function documented in the Special Flood Hazard Area and would not alter FEMA flood mapping.

Potential Flooding

Removal of vegetation and sediment during MWMP maintenance would cause changes in conveyance capacity and channel hydraulics due to changes to existing channel configuration and roughness. Facility maintenance has the potential to increase the conveyance capacity and velocity of flow in the facilities.

The project-level maintenance activities under the MWMP include detailed hydrology and hydraulic analyses (Appendix I) used to evaluate comparisons of channel conveyance capacity, velocity, and resistance to erosive sheer stress to evaluate pre-maintenance and post-maintenance flood and erosion risk. The hydrology and hydraulic analysis results provide facility conveyance capacity based on baseline (current, pre-maintenance, or ultimate vegetated condition [i.e., future anticipated maximum vegetation and sediment accumulation]), and recommended maintenance conditions. The analysis includes site-specific evaluation of the potential for flooding prior to and after proposed maintenance (Table 5-1 in Appendix I). Modeled routine maintenance activities to remove accumulated sediment and manage vegetation tend to generally improve facility conveyance and minimize flooding potential by restoring the channel's capacity from current conditions to as-built conditions or maintenance baseline conditions. For evaluated MWMP facilities, the hydrology and hydraulic analysis indicates that maintenance would either reduce the potential for flooding, or flood potential would remain the same within the channel and within upstream and downstream reaches within the domain of analysis described in Section 3.2 of Appendix I. Therefore, no significant impacts related to increased flooding potential are anticipated as a result of proposed MWMP activities.

In some cases, facility-specific conditions unrelated to maintenance activities, such as downstream culvert/flow impediments, are the primary drivers for off-site flooding. The City's interconnected drainage network of engineered infrastructure and natural channel areas limit the application of a single City-wide conveyance capacity standard to all facilities, since conditions and design methodology and standards changed over time. Maintenance of vegetation and accumulated sediment in MWMP facilities to maximize conveyance capacity would not adversely affect infrastructure conditions, and may reduce the risk of clogging downstream culverts that results in flooding when vegetation and sediment becomes dislodged during storm events.

Therefore, impacts associated with alteration of drainage patterns on upstream and downstream areas as a result of project-level maintenance-induced changes in runoff flow rates or volumes with respect to flooding would be **less than significant**.

Erosion

The presence of vegetation and accumulated sediment in baseline (i.e., current, pre-maintenance, ultimate vegetated condition) MWMP facilities acts to inhibit the velocity of flows in many channels. Removal of accumulated sediment and vegetation during MWMP maintenance changes the channel geometry and hydraulics, and could result in increased flow velocities. Increased flow velocities above a critical level could cause erosive conditions in earthen-bottom facilities, leading to increased erosion of channel beds and banks, causing potential transport of sediment to downstream areas. Increased flow velocities, erosion, and associated sedimentation could cause hydrologic and hydraulic impacts to downstream areas and/or environmental resources, particularly in Environmentally Sensitive Areas or areas that have already been identified as having impairments (see Section 5.12, Water Quality, for additional information). In addition, erosion of channel beds or banks could compromise bed and bank stability, leading to risk of bank failure.

To assess the potential for localized erosive velocities resulting from the proposed removal of sediment and vegetation, hydrology and hydraulic modeling was performed for each facility group (see Appendix I, *Hydrology and Hydraulics Technical Report*). The hydrology and hydraulic analysis included a comparison of channel capacity, velocity, and resistance to erosive sheer stress to evaluate pre-maintenance and post-maintenance conditions. The hydrology and hydraulic analysis results provide facility conveyance capacity and potential for erosion based on baseline and recommended maintained conditions.

For all facilities, hydrologic peak flows for the 2-year, 5-year, 10-year, 25-year, 50-year, and 100-year frequency storm events were estimated using one of four methods. Hydraulic analysis using simple and detailed U.S. Army Corps of Engineers Hydrologic Engineering Center-River Analysis System (HEC-RAS) models was used to estimate the capacity and level of service of the facility, as well as the velocity of storm water during the various frequency storm events. The level of service identifies the flood capacity of the facility based on a comparison of the conveyance capacity from the hydraulic analysis to the hydrologic peak flows for different flood recurrence intervals. The calculated velocity, combined with channel substrate (e.g., concrete- or riprap-lined, earthen-bottom) conditions, was used to determine the potential for erosion within the channels and within upstream and downstream reaches within the domain of analysis. Velocities in the maintained condition at the identified level of service were compared with the recommended permissible velocities in the City of San Diego Drainage Design Manual, dated January 2017 (City of San Diego 2017).

All facilities were subdivided into Categories 1, 2, and 3 segments in the *Hydrology and Hydraulics Technical Report* (Appendix I) as follows:

- Category 1 includes segments that are concrete-lined in both the bed (i.e., channel bottom) and banks (i.e., the sides of the channel that confine the flow). These segments have the

lowest likelihood for erosion because of the hardened substrate within concrete-lined channel segments. Maintenance of Category 1 segments proposes to return to the originally constructed flowline, restore capacity, and in certain storm scenarios reduce the potential for flooding. Simple HEC-RAS models were developed for these segments since maintenance activities in concrete-lined segments were limited to restoring, but not increasing, the originally designed capacity.

- Category 2 includes engineered channel segments (not concrete lined) that have as-built drawings available. As-built drawings provide information on the original design dimensions. Maintenance of Category 2 segments proposes to return the segments to the original as-built condition; restore capacity; and in certain storm scenarios, reduce the potential for flooding. Simple HEC-RAS models were developed for these segments since maintenance activities in engineered segments were limited to restoring, but not increasing, the originally designed capacity.
- Category 3 includes earthen-bottom channels without available as-built drawings. In these cases, no previous engineering information exists for channel capacity or design. Detailed HEC-RAS models were developed for these channels to determine capacity, velocity, and resistance to erosive shear stress (i.e., the force of flowing water against the channel). The upstream and downstream domain of analysis of the channel segment were also evaluated for erosion/sedimentation, since the recommended maintenance activities may increase the conveyance capacity.

In those instances when the hydrologic and hydraulic analysis indicated that velocities in the maintained condition were greater than the recommended permissible velocities (for Category 2 and 3 segments), two options were evaluated to bring flow velocities into a range that would reduce impacts to below a level of significance:

1. Avoidance or minimization of substantial impacts by revising the MWMP to avoid hydraulic impacts by limiting the facility area to be maintained and/or modifying maintenance methods. In some instances, the level of recommended maintenance was regulated (e.g., recommending vegetation trimming in lieu of total removal of vegetation) in conditions where the analysis showed potential for erosive conditions within the segment and/or upstream/downstream domain of analysis. In addition, on a case-by-case basis, no maintenance was recommended for facility segments, based on factors such as increasing erosive conditions, FEMA floodplain limits established outside the facility banks, or no discernable improvement to flood protection goals post-maintenance. In those instances, a segment may be identified as potentially requiring capital improvements, which would not be a part of the proposed MWMP program.

2. Implementation of post-maintenance erosion control measures would reduce flow velocities in the post-maintenance condition. The velocities in the recommended maintenance condition at the level of service were compared with the recommended permissible velocities in the City of San Diego Drainage Design Manual, dated January 2017 (City of San Diego 2017) and pre-maintenance conditions. If the velocities in the recommended maintenance condition were greater than the pre-maintenance conditions and greater than recommended permissible velocities, post-maintenance erosion control measures would be implemented (see Section 6.4 of the *Hydrology and Hydraulics Technical Report* [Appendix I] and Section 5.7.5, Approach and Methodology, above) to the satisfaction of the City Engineer. If the velocities in the recommended maintenance condition were equal to or less than pre-maintenance condition or less than the recommended permissible velocities, impacts would be less than significant and no post-maintenance erosion control measures would be required for the segment.

In summary, there would be no impact to concrete-lined facilities (Category 1 segments) as a result of changes in flow velocities and drainage patterns in a manner that would result in substantial increased erosion. However, alteration of existing drainage patterns within concrete-lined facilities may result in increased erosion if upstream or downstream facilities are earthen-bottom. In addition, increased flow velocities in earthen-bottom facilities (Category 2 and 3 segments) could result in erosion on site or within the domain of analysis prior to implementation of **EP-HYD-1**. With implementation of **EP-HYD-1**, potential impacts associated with project-level maintenance activities would be **less than significant**.

Long-term erosion-related impacts to earthen-bottom facilities could be avoided by revising the proposed FMP to bring flow velocities into an acceptable range based on maximum permissible velocities per local standards, or through implementation of **EP-HYD-1** requiring post-maintenance erosion control measures (see Section 6.4 of the *Hydrology and Hydraulics Technical Report* [Appendix I] and Section 5.7.5, Approach and Methodology, above). In addition, see Section 5.12, Water Quality, regarding potential erosion-induced water quality impacts.

5.7.7 PROGRAM-LEVEL ANALYSIS (OTHER MWMP ACTIVITIES)

Programmatic activities would include minor maintenance activities, changed conditions or new/substantially amended FMPs, new compensatory mitigation sites (see Section 5.3, Biological Resources), and emergency maintenance or repair. Under the MWMP, these additional programmatic activities are subject to the review and approval processes outlined in the MWMP.

Similar to the analysis provided above for Issue 1, proposed program-level maintenance activities would not result in a substantial increase in impervious surfaces or associated runoff. Facility maintenance activities would not increase impervious areas within the facilities or in other areas within the

surrounding watersheds. Program-level maintenance and/or emergency activities that result in the installation of impervious materials would be limited to the repair or replacement of existing concrete-lined and riprap areas. As a result, program-level MWMP maintenance activities would not change the flow rate or amount of surface runoff in the facility, since maintenance would not affect the contributing watershed area or the amount of impervious area within the watershed. Impacts as a result of program-level maintenance would be **less than significant**, and no mitigation is required.

Regarding Issue 2 (flooding), potential flooding impacts from program-level maintenance activities are anticipated to be similar to those for project-level maintenance activities. Programmatic maintenance activities would be evaluated to determine if maintenance is within the limitations of minor maintenance activities, and if maintenance is expected to increase risk of flooding beyond what has already been analyzed in this Environmental Impact Report. If flooding risks are more substantial, an FMP would be prepared and an analysis conducted to determine the potential need for flood control measures to be required as part of the Substantial Conformance Review process. New or amended FMPs can be added to the MWMP pending completion of adequate environmental review and regulatory approval. New or amended FMPs would be required to demonstrate substantial conformance with the MWMP and this Environmental Impact Report to ensure implementation of mitigation measures and consistency with regulatory requirements. Therefore, impacts associated with alteration of drainage patterns on upstream and downstream domain of analysis as a result of program-level maintenance-induced changes in runoff flow rates or volumes with respect to flooding would be **less than significant**.

The same process described in the paragraph above regarding evaluation of programmatic activities to determine flooding risks would also occur to determine erosion-related risks. However, because programmatic activities have the potential to alter existing drainage patterns within concrete-lined facilities where upstream and/or downstream facilities are earthen-bottom, increased erosion could occur. However, if proposed FMPs could not be revised to bring flow velocities into an acceptable range, implementation of **EP-HYD-1** would ensure impacts would be **less than significant**.

5.7.8 SIGNIFICANCE OF IMPACTS

As discussed above under Issue 1, MWMP project- or program-level maintenance activities would not change the flow rate or amount of surface runoff in the facility, since maintenance would not affect the contributing watershed area or the amount of impervious area within the watershed. Impacts would be less than significant, and no mitigation is required.

As discussed above under Issue 2, impacts associated with alteration of drainage patterns on upstream or downstream areas as a result of project- and program-level maintenance-induced changes in runoff flow rates or volumes with respect to flooding would be less than significant. However, regarding erosion, alteration of existing drainage patterns within concrete-lined facilities may result in increased

erosion if upstream or downstream facilities are earthen-bottom. In addition, increased flow velocities in earthen-bottom facilities (Category 2 and 3 segments) could result in on-site and/or-off-site erosion. However, if proposed FMPs could not be revised to bring flow velocities into an acceptable range, implementation of **EP-HYD-1** would ensure impacts would be **less than significant**.

5.7.9 MITIGATION MEASURES

Potential impacts associated with hydrology would be **less than significant** and no mitigation measures are required.

5.7.10 SIGNIFICANCE OF IMPACT AFTER MITIGATION

With implementation **EP-HYD-1**, potential long-term erosion-related impacts to earthen-bottom facilities would remain **less than significant**.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

5.8 LAND USE

5.8.1 INTRODUCTION

This section describes the existing land use setting of the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP); identifies the applicable regulatory framework; evaluates potential impacts associated with land use that would result from the proposed MWMP; identifies mitigation measures, if necessary, to reduce the level of impact associated with implementation of the proposed MWMP; and identifies the level of significance after any mitigation. Information in this section is from applicable plans and regulations, including the following:

- *City of San Diego General Plan*
- Community, Subarea, Local Coastal Program, Park/Preserve, and Other City Land Use and Area Plans
- *City of San Diego Climate Action Plan*
- *City of San Diego Multiple Species Conservation Program Subarea Plan*
- San Diego Municipal Code/Land Development Code, including:
    - Noise Ordinance
    - Coastal Overlay Zone General Development Regulations
    - Grading Regulations
    - Storm Water Runoff and Drainage Regulations
    - Landscape Regulations
    - Environmentally Sensitive Lands Regulations
    - Historical Resources Regulations

Implementation of the MWMP was determined to result in no impacts related to physically dividing an established community. Similarly, implementation of the MWMP would not result in land uses that are incompatible with an adopted airport Comprehensive Land Use Plan, and no impacts would occur. As such, potential impacts are analyzed in Chapter 7, Effects Not Found to be Significant, of this Environmental Impact Report (EIR).

5.8.2 EXISTING CONDITIONS

Land Uses

The City's storm water system is distributed over the 342.4-square-mile metropolitan area. As a result, the physical characteristics and land uses vary with the individual components of the storm water system. According to the *City of San Diego General Plan*, the largest existing use of land in the City, at nearly 28%, consists of parks, open space, and recreation areas. The next largest existing uses of land are residential uses at 24%, institutional uses at 17%, transportation facilities at 14%, commercial uses at 4%, and industrial uses at 4% (City of San Diego 2015a). A majority of the storm water facilities that would be maintained by the proposed MWMP are located in urban areas and adjacent to roadways (30%), residential (25%), commercial/industrial/vacant (13%), and other land uses (i.e., hospitals, schools, office, communication utilities (19%)), as opposed to rural or natural open space (13%).

5.8.3 REGULATORY SETTING

Federal

MCAS Miramar Joint Integrated Natural Resources Management Plan

The Marine Corps Air Station (MCAS) Miramar strategy for conservation and management is to (1) limit activities, minimize development, and mitigate actions in areas supporting high densities of vernal pool habitat, threatened or endangered species, and other wetlands; and (2) to manage activities and development in areas of low densities, or no regulated resources, with site-specific measures and programmatic instructions (MCAS Miramar 2018). To that end, MCAS Miramar adopted an Integrated Natural Resources Management Plan (INRMP) in 2011 (MCAS Miramar 2011). The INRMP establishes guidelines for management of natural resources on lands administered by MCAS Miramar. While the INRMP does not dictate land use decisions, it does provide important resource information to support sound land use decisions and natural resource management. For example, the INRMP considers the interrelationships between individual components of natural resources management (e.g., soils, vegetation, wetlands, wildlife), mission requirements, and other land-use activities affecting MCAS Miramar natural resources. This information is, in turn, intended to provide technical guidance for the integration of natural resource issues and concerns into facilities and operational planning, in accordance with the National Environmental Policy Act decision-making processes.

MCAS Miramar has developed Management Areas to highlight the area's supporting differing regulated resources. Management Areas also serve as a basis for planning natural resource management actions. Regardless of sensitivity, all of MCAS Miramar's undeveloped areas are subject to natural resource management, conservation, and best management practices.

The current INRMP was approved in 2018, and is subject to annual review.

Coastal Zone Management Act

The Coastal Zone Management Act, passed in 1972 (Title 16 USC 1451–1464), established a federal Coastal Zone management policy and created a federal Coastal Zone. The act provides for the management of the nation's coastal resources. The goal is to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone." Enactment of the Coastal Zone Management Act provided a policy and source of funding for implementation of federal goals in coastal states. The California Coastal Act, described below, is the state law corresponding to the federal act, and affects the MWMP program area.

State

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that project proponents assess potential land use impacts, including project consistency with local land use policies and plans. Consistency with local land use policies and plans is one of several criteria that can be used to assess whether a project could have significant environmental impacts under the provisions of CEQA. A discussion of local land use policies and plans and standards of significance for potential land use impacts are described below.

California Coastal Act

The California Coastal Commission was established by the state legislature through adoption of the California Coastal Act of 1976 (California Public Resources Code, Section 30000 et seq.). The intent of the California Coastal Act is to protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment. The California Coastal Act includes specific policies that address issues such as shoreline and upland public access and recreation, terrestrial and marine habitat protection, visual resources, water quality, public works, and land/water uses.

Local

City of San Diego General Plan

The General Plan sets out a long-range vision and policy framework to guide future development, provide public services, and maintain the qualities that define San Diego. The City's General Plan was adopted by the City Council on March 10, 2008, and was subsequently amended in 2010, in 2012, and most recently on June 29, 2015. The General Plan builds on many of the goals and strategies of the previously adopted 1979 General Plan, in addition to offering new policy direction in the areas of

land use, urban form, neighborhood character, and conservation. It recognizes and explains the critical role of the community planning program as the vehicle to tailor the "City of Villages" growth strategy for each neighborhood. The General Plan consists of the following elements: Land Use and Community Planning, Mobility, Urban Design, Economic Prosperity, Public Facilities, Services and Safety, Recreation, Conservation, Noise, and Historic Preservation. A discussion of elements that are particularly relevant to an analysis of potential land use impacts is provided below (City of San Diego 2015a). Applicable goals and policies for each General Plan Element are included in Table 5.8-1.

Land Use and Community Planning Element

The purpose of the Land Use and Community Planning Element is to guide future growth and development into a sustainable City-wide development pattern, while maintaining or enhancing quality of life in the City's communities. The Land Use and Community Planning Element addresses land use issues that apply City-wide. The community planning program is the mechanism to refine City-wide policies, designate land uses, and make site-specific recommendations as needed. The Land Use and Community Planning Element establishes the structure to respect the diversity of each community and includes policy direction to govern the preparation of Community Plans. The element also provides policy direction in areas including zoning and policy consistency, the plan amendment process, coastal planning, airport land use compatibility planning, annexation policies, balanced communities, equitable development, and environmental justice.

Urban Design Element

The purpose of the Urban Design Element is to guide physical development toward a desired scale and character that is consistent with the social, economic, and aesthetic values of the City. According to the Urban Design Element, "San Diego's distinctive character results from its unparalleled natural setting, including beaches, bays, hills, canyons and mesas that allow the evolution of geographically distinct neighborhoods."

Noise Element

The purpose of the Noise Element is to protect people living and working in the City from excessive noise. Noise at excessive levels can be intrusive, annoying, and undesirable; therefore, the City provides goals of controlling noise at its source to acceptable levels, and to guide compatible land uses and the incorporation of noise attenuation measures for new uses.

Public Facilities, Services, and Safety Element

The Public Facilities, Services, and Safety Element addresses facilities and services that are publicly managed and have a direct influence on the location of land use. These include fire-rescue, police, wastewater, storm water, water infrastructure, waste management, libraries, schools, information

infrastructure, disaster preparedness, and seismic safety. Public Facilities, Services, and Safety Element goals and policies are associated with providing adequate public facilities and services to serve the existing population and new growth, as well as to fund their operations and maintenance.

Recreation Element

The purpose of the Recreation Element is "to preserve, protect, acquire, develop, operate, maintain, and enhance public recreation opportunities and facilities throughout the City for all users" (City of San Diego 2015a). With over 38,930 acres of park and open space, the City's millions of residents and visitors benefit both mentally and physically from these recreational facilities. This element provides policies to address the City's goals for recreation facilities.

Conservation Element

The purpose of the Conservation Element is to provide for the long-term conservation and sustainable management of the rich natural resources that help define the City's identity, contribute to its economy, and improve its quality of life.

Historical Preservation Element

The purpose of the Historic Preservation Element is to "guide the preservation, protection, restoration, and rehabilitation of historical and cultural resources and maintain a sense of the City" (City of San Diego 2015a). This element provides the identification, evaluation, registration, and protection of historical resources, for its current and future residents.

Community Plans

In addition to the General Plan, there are 14 Community Plans, seven Local Coastal Program Land Use Plans, and five Park Master Plans for the City of San Diego that are relevant to the MWMP. The applicable Community Plans are as follows:

- Clairemont Mesa
- College Area
- Encanto Neighborhood
- Kearny Mesa
- Mid-City (City Heights, Eastern Area, and Kensington-Talmadge communities)
- Mira Mesa
- Mission Valley
- Navajo
- Otay Mesa
- Rancho Bernardo
- Rancho Peñasquitos
- Skyline–Paradise Hills
- Southeastern San Diego
- Uptown

The applicable Community Plan and Local Coastal Program Land Use Plans are as follows:

- La Jolla
- Otay Mesa-Nestor
- Pacific Beach
- Peninsula
- San Ysidro
- Tijuana River Valley
- Torrey Pines

The applicable park master plans are as follows:

- *Balboa Park Master Plan*
- *Famosa Slough Enhancement Plan*
- *Los Peñasquitos Canyon Preserve Master Plan*
- *Mission Bay Park Master Plan*
- *San Diego River Park Master Plan*
- *Mission Trails Regional Park Master Plan Update*

Clairemont Mesa Community Plan

Clairemont Mesa is an urbanized residential community with community-serving shopping centers, parks and recreational facilities, and schools. The community has well-established single-family neighborhoods with streetscape parkways (City of San Diego 2011a). Identified goals and objectives were developed to provide a general framework for the continued development of the Clairemont Mesa Community.

College Area Community Plan

The College Area Community is located in the east-central part of the City of San Diego, along the southern edge of Mission Valley and approximately 8 miles northeast of the downtown area. It is primarily a residential community and is also home to San Diego State University (City of San Diego 2005a).

Encanto Community Plan

The eight communities that make up the Encanto neighborhoods planning area are Emerald Hills, Chollas View, Lincoln Park, Valencia Park, Alta Vista, O'Farrell, Broadway Heights, and Encanto. Encanto has maintained much of its semi-rural character, but the other seven neighborhoods, which make up roughly 75% of the population (47,000) and 85% of the land mass (3,811 acres), are largely suburban. Three-quarters of homes are single-family homes (City of San Diego 2015b). Newer, mixed-use developments tend to be focused on the Imperial Avenue and Euclid Avenue corridors. Chollas Creek is the natural drainage system that traverses Encanto neighborhoods and defines the central landform of the community.

Kearny Mesa Community Plan

The Kearny Mesa community is a major regional employment center occupying a central location within the City of San Diego, and the community meets employment, business, and retail needs for a large portion of the City (City of San Diego 2011b).

Mid-City Communities Plan: Normal Heights, Kensington–Talmadge, City Heights, and Eastern Area Communities Plan

Mid-City is a cluster of four communities: Normal Heights (no MWMP maintenance activities proposed in this community), Kensington-Talmadge, City Heights, and Eastern, each with its own distinctive character and its own community planning group. The community planning area is primarily residential, with a mix of housing types and commercial development along transportation corridors. A common bond that ties these communities together is El Cajon Boulevard—Old Highway 80, which in earlier days tied the region to points east (City of San Diego 2015c).

Mira Mesa Community Plan

The Mira Mesa community is approximately 10,500 acres and is located in the north-central portion of the City of San Diego. It is bounded on the north by Los Peñasquitos Canyon, on the west by Interstate (I-) 805, on the east by I-15, and on the south by Miramar Road (City of San Diego 2011c). The community is mostly built-out and primarily developed with residential and commercial uses in the north and east, and industrial and office uses in the west and south.

Mission Valley Community Plan

The Mission Valley planning area comprises approximately 2,418 net acres and is located near the geographic center of the City of San Diego. Part of the San Diego River floodplain, it is generally bounded by Friars Road and the northern slopes of the valley on the north, the eastern banks of the San Diego River on the east, the southern slopes of the valley on the south, and I-5 on the west (City of San Diego 2019a). The community is a regional center of office, hotels, retail, and primarily multi-family residential developments.

Navajo Community Plan

The Navajo community, encompassing approximately 14 square miles, lies roughly north of I-8, northwest of the City of La Mesa, west of the cities of El Cajon and Santee, and southeast of the San Diego River. The community includes the neighborhoods of Grantville, Allied Gardens, Del Cerro, and San Carlos (City of San Diego 2015d). The community contains a variety of land uses, including detached and attached residential in Allied Gardens, and commercial and light industrial centers in Grantville situated along Mission Gorge Road. The central and eastern portions of the community are primarily residential.

Otay Mesa Community Plan

The Otay Mesa community planning area is a dynamic, developing area of the City of San Diego. The area is bounded by the Otay River Valley and the City of Chula Vista on the north, the international border with Mexico on the south, I-805 on the west, and the County of San Diego on the east. Brown Field (a general aviation airport) occupies a central location within the community. Otay Mesa is envisioned as a major employment center with distinct residential neighborhoods, including two new residential village areas. The community's open space system will have a network of public trails that traverse the canyons and mesas (City of San Diego 2014a).

Rancho Bernardo Community Plan

Rancho Bernardo is the northernmost residential community within the City of San Diego. The community planning area encompasses about 6,511 gross acres. Rancho Bernardo is a master-planned community that includes private parks and clubs for each neighborhood in the community (City of San Diego 2007a).

Rancho Peñasquitos Community Plan

The community of Rancho Peñasquitos is located west of I-15, north of Los Peñasquitos Canyon Preserve, south of the community of Rancho Bernardo, and east of the Torrey Highlands Community. State Route (SR-) 56 traverses the central portion of the community from east to west. Rancho Peñasquitos encompasses approximately 6,500 acres, including Black Mountain Regional Park (City of San Diego 2011d).

Skyline–Paradise Hills Community Plan

The Skyline-Paradise Hills Community is approximately 4,500 acres in area and is located in the southeastern portion of the City of San Diego. The community is bordered by the City of Lemon Grove and the Southeastern San Diego community planning area to the north, the South Bay Freeway (SR-54) and an unincorporated area of San Diego County to the south, National City and the Southeastern San Diego community planning area to the west, and an unincorporated area of San Diego County to the east. This community includes the neighborhoods of Skyline, Paradise Hills, South Bay Terraces, North Bay Terraces, Lomita, and Jamacha (City of San Diego 2006).

Southeastern San Diego Community Plan

Southeastern San Diego is a vibrant, diverse community located just east of downtown San Diego. This planning area encompasses 3,051 acres and lies south of SR-94, between I-5 and I-805, and north of the city limits of National City. Neighborhoods contained in Southeastern San Diego include

Sherman Heights, Grant Hill, Stockton, Mt. Hope, Logan Heights, Mountain View, Southcrest, and Shelltown (City of San Diego 2015e).

Uptown Community Plan

The Uptown community planning area is located just north of the Centre City area (City of San Diego 2004a). It is bounded on the north by the steep hillsides of Mission Valley, on the east by Park Boulevard and Balboa Park, and on the west and south by Old San Diego and I-5. The planning area comprises about 2,700 acres, or approximately 4.2 square miles. The Uptown community is located on a level mesa that is broken by heavily vegetated canyons and borders two major parks: Presidio and Balboa.

Local Coastal Program Land Use Plans

La Jolla Community Plan and Local Coastal Program Land Use Plan

The La Jolla community planning area consists of approximately 5,718 acres and is located along the western edge of the north coastal region of the City of San Diego. It is bounded on the north by the University of California, San Diego and a portion of the University community; on the east by Gilman Drive, the University community, and I-5; on the south by the community of Pacific Beach; and on the west by the Pacific Ocean. The northernmost portion of La Jolla is separated from the remainder of the community by the Scripps Institute of Oceanography and a portion of the University of California, San Diego (City of San Diego 2014c). The community is primarily residential and includes considerable shoreline areas and areas of variable terrain.

Otay Mesa–Nestor Community Plan and Local Coastal Program Land Use Plan

The Otay Mesa–Nestor community planning area is located in the southern portion of the City and is bounded on the north by the City of Chula Vista, on the east by the community of Otay Mesa, on the south by the Tijuana River Valley and the San Ysidro community, and on the west by the City of Imperial Beach (City of San Diego 2016a). The majority of the planning area is developed residentially, but also includes undeveloped or underutilized land, as well as land used for agriculture or mineral extraction and processing.

Pacific Beach Community Plan and Local Coastal Program Land Use Plan

The Pacific Beach community planning area is located along the western edge of the mid-coastal region of the City of San Diego. It is bounded on the north by La Jolla, on the east by I-5 and Clairemont Mesa, on the south by Mission Bay Park and Mission Beach, and on the west by the Pacific Ocean (City of San Diego 2005b). The community is primarily residential with community and

visitor-serving commercial uses, and is physically identified by its proximity to water, both coastal bluffs and beaches of the Pacific Ocean and the beaches of Mission Bay to the south.

Peninsula Community Plan and Local Coastal Program Land Use Plan

The Peninsula community planning area encompasses about 4,409 acres of land bounded by Ocean Beach and the Pacific Ocean on the west and south, the San Diego River Flood Control Channel and the Midway community on the north, and San Diego Bay and Port tidelands on the east (City of San Diego 1987). The planning area occupies a major geographic feature of San Diego's coastline known as Point Loma. Point Loma is a large longitudinal hill projecting into the Pacific Ocean from the north end of San Diego Bay, and as such is a major protective feature of the harbor. Peninsula is an urbanized community composed of a number of relatively distinct residential neighborhoods, a well-developed commercial core, a college, and three major regional recreational resources: Sunset Cliffs, Shelter Island, and Cabrillo National Monument.

San Ysidro Community Plan and Local Coastal Program Land Use Plan

The *San Ysidro Community Plan* planning area encompasses approximately 1,800 acres. It is bounded by the Otay Mesa–Nestor community and SR-905 in the north, by the Tijuana River Valley in the west, by the Otay Mesa community in the east, and by the international border with Mexico in the south. San Ysidro's location, adjacent to Mexico, provides opportunities for cultural exchange and commerce, serving both the tourist and the resident population. San Ysidro is largely composed of residential neighborhoods and commercial centers, with the residential neighborhoods generally bounded by freeways and the commercial uses closest to the international border.

Tijuana River Valley Local Coastal Program Land Use Plan

The Tijuana River Valley is a broad natural floodplain containing a variety of wetland and riparian areas. This valley is a small portion of the Tijuana River's 1,700 square miles of watershed. The watershed area includes portions of south San Diego County and northern Baja California, Mexico. The Tijuana River Valley planning area is bounded by the City of Imperial Beach and the Otay Mesa–Nestor community to the north, the San Ysidro community to the east, Mexico to the south, and Border Field State Park and Imperial Beach to the west (City of San Diego 2007b).

Torrey Pines Community Plan and Local Coastal Program Land Use Plan

Torrey Pines is located in the northern coastal region of the City of San Diego and is bounded by I-5 on the east, the City of Del Mar and the Pacific Ocean to the west, the City of Solana Beach to the north, and the University community to the south. The Torrey Pines community planning area encompasses

approximately 2,600 acres (City of San Diego 2014b) and contains a number of major local and regional open space systems associated with the watersheds of Los Peñasquitos and San Dieguito Lagoons.

Park Plans

Balboa Park Master Plan

The *Balboa Park Master Plan* has one underlying vision, which is to nurture and enhance the cultural, recreational, and passive resources of the park to meet the needs of the region and surrounding community while respecting its physical, cultural, and historical environment (City of San Diego 2004b). The goals and policies of the Balboa Park Master Plan were reviewed, and none were found to be particularly applicable to the proposed MWMP. The goals of the Balboa Park Master Plan are primarily geared toward preserving cultural and recreational uses, increasing free and open parkland, and improving public access.

Famosa Slough Enhancement Plan

The *Famosa Slough Enhancement Plan* is a City-sponsored, California Coastal Conservancy–funded restoration and enhancement planning program. The planning document provides a conceptual plan for the enhancement of the Famosa Slough system, and provides a roadmap to an enhancement goal. The primary purpose of the plan is to restore and preserve Famosa Slough as a natural habitat, to provide sanctuary for wildlife, and to educate the public in the appreciation of plants and animals that comprise a wetland system (City of San Diego 1993).

Los Peñasquitos Canyon Preserve Master Plan

The Los Peñasquitos Canyon Preserve is located in the City of San Diego between I-5 and I-15, approximately 12 miles north from the City's center. The Los Peñasquitos Canyon and its tributary Lopez Canyon are characterized by perennial streams and steep slopes rising from flat, densely vegetated canyon bottoms. The master plan includes a Long-Range Management Plan, but does not include specific goals and policies (City of San Diego and County of San Diego 1998).

Mission Bay Park Master Plan Update

The *Mission Bay Park Master Plan Update* incorporates a comprehensive water quality improvement program for Mission Bay, including the creation of nearly 100 acres of salt marshes, 80 acres of which are located at the mouth of Rose Creek, to help trap contaminants before they enter Mission Bay's main water bodies. It is broadly recognized that Mission Bay Park's economic and recreational future depend on the quality of Mission Bay's water. In response to fluctuating water quality, the

Master Plan Update proposes a comprehensive set of measures involving state-of-the-art biological, mechanical, public education, and recreation management programs (City of San Diego 2002).

San Diego River Park Master Plan

The *San Diego River Park Maser Plan* seeks to return the San Diego River to a cleaner, healthier condition that showcases a natural California river within the City's urban setting that invites people to experience a riparian environment. The creation of the San Diego River Park in the City of San Diego will not lead to a cleaner river on its own. The river is impacted along its entire length, and the entire watershed must be considered, since the impacts of inland sources of pollutants impair water quality downstream and in coastal environments many miles away (City of San Diego 2013).

Mission Trails Regional Park Master Plan Update

The *Mission Trails Regional Park Master Plan* identifies all existing and future uses as envisioned by the park planners when the park master plan was adopted in 1985. Since that time, many uses anticipated in the park master plan have been built. Areas within and surrounding the park have since taken on more significance as a core area for the region's sensitive biological resources. Some uses originally anticipated in the park master plan have been evaluated for compatibility with the Multiple Species Conservation Program (MSCP), and, for the most part, the passive recreational uses envisioned are considered compatible. Where future park uses were considered to be potentially incompatible with the MSCP, alternative locations have been identified to accommodate those uses in less sensitive areas. The landforms within the park drain to one of two major watersheds: San Diego River and Peñasquitos Creek. The northern half of the West Sycamore area drains into Beeler Creek, which is a tributary to Peñasquitos Creek. Everything else drains into the San Diego River (City of San Diego 2019b).

Multiple Species Conservation Program

The City is a participant in the San Diego County MSCP, a comprehensive, regional long-term habitat conservation program designed to conserve biodiversity and to achieve certainty in the land development process for both private- and public- sector projects within approximately 900 square miles in the southwestern portion of San Diego County (County of San Diego 1998). The MSCP is a cooperative federal, state, and local program for conservation of native vegetation communities to address the habitat needs of multiple species. It serves as an approved Habitat Conservation Plan pursuant to Section 10(a)(2)(A) of the Endangered Species Act and the California Natural Communities Conservation Planning Act. The MSCP provides permit issuance authority for take of covered species to the local regulatory agencies.

The MSCP is established and implemented within the City's jurisdiction through an Implementing Agreement and approved *Multiple Species Conservation Program Subarea Plan* (MSCP Subarea Plan) with the wildlife agencies, as well as referenced companion documents such as the Environmentally Sensitive Lands (ESL) Regulations and the City of San Diego Biology Guidelines (SDBG) of the Land Development Manual (LDM). An Incidental Take Permit from the U.S. Fish and Wildlife Service establishes the City's authority to take covered species subject to compliance with the MSCP. A fundamental objective of the MSCP Subarea Plan is to establish a preserve system designed to conserve large blocks of interconnected habitat having high biological value. The area delineated within the MSCP Subarea Plan's Multi-Habitat Planning Area (MHPA) is identified for assemblage and conservation as the MSCP preserve.

The SDBG describes sensitive biological resources, as defined by the ESL Regulations, as lands within the MHPA, as well as other lands outside of the MHPA that contain wetlands; vegetation communities classifiable as Tier I, II, IIIA, or IIIB; habitat for rare, endangered, or threatened species; or narrow endemic species. Within the City, the MSCP is implemented through the MSCP Subarea Plan (City of San Diego 1997), which applies within 6,501 acres. Portions of the MWMP are located within and adjacent to MHPAs (City of San Diego 1997).

City of San Diego MSCP Subarea Plan

The MSCP Subarea Plan (City of San Diego 1997) area encompasses 206,124 acres within the larger regional MSCP Plan area. The MWMP Project Area is located within the northern, urban, southern, and eastern areas of the MSCP Subarea Plan area. In addition, the MWMP occurs on lands that are excluded from MHPA areas of the MSCP Subarea Plan. The northern area includes the majority of the Los Peñasquitos Lagoon/Canyon del Mar Mesa core, and developed and undeveloped land from Black Mountain Ranch to Lopez Canyon and the North City Future Urbanizing Area. Urban habitat areas within the MHPA include existing designated open space such as Mission Bay, Tecolote Canyon, Marian Bear Memorial Park, Rose Canyon, San Diego River, the southern slopes along Mission Valley, Carroll and Rattlesnake Canyons, Florida Canyon, Chollas Creek, and a variety of smaller canyon systems. The southern area includes Otay Mesa, Otay River Valley, and Tijuana Estuary and Tijuana River Valley. The eastern area includes East Elliott and Mission Trails Regional Park.

The MSCP Subarea Plan area is within an urban setting with approximately three-quarters either built out or retained as open space/park system. The City's MHPA is considered an urban preserve that is constrained by surrounding development. The MHPA is intended as a "hardline" boundary for assemblage of the MSCP habitat preserve. The MHPA was developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies core biological resource areas and wildlife movement corridors targeted for conservation where only limited development may occur (City of San Diego 1997). The criteria used to define core and linkage areas

involves maintaining ecosystem function and processes, including large animal movement. Each core area is connected to other core areas or to habitat areas outside of the MSCP either through common boundaries or through linkages. Core areas have multiple connections to help ensure that a balance in the ecosystem will be maintained (City of San Diego 1997).

Section 1.4.2 of the MSCP Subarea Plan includes general land use adjacency planning principles and design guidelines that are to be used in planning of projects located adjacent to or within the MHPA. These policies and guidelines address the construction and maintenance of roads and utilities, fencing, lighting, signage, materials storage, mining/extraction/processing facilities, and flood risk reduction facilities. The goal of these policies and guidelines is to ensure minimal impact to the MHPA (City of San Diego 1997).

City of San Diego Municipal Code and Land Development Code

The City of San Diego Municipal Code (SDMC) contains the administrative, criminal and regulatory ordinances (or laws) for the City of San Diego. The SDMC is organized by chapters, articles, divisions, and sections. The SDMC is regularly updated as City Council adopts, amends or repeals ordinances.

Specifically, SDMC Chapters 11 through 14 are referred to as the Land Development Code (LDC). These chapters contain the City's planning, zoning, subdivision, and building regulations. The LDC sets forth the procedures used in the application of land use regulations, the types of review of development, and the regulations that apply to the use and development of land in the City. It is also the implementation document for the City's General Plan, Community Plans and Local Coastal Program Plans.

In accordance with LDC Section 111.0106, the City may establish and adopt submittal requirements, review procedures, and standards and guidelines for development to supplement the LDC. These technical manuals, standards, and guidelines; known collectively as the LDM, further describe the City's policies to review, implement, and comply with regulations as referenced in the LDC where applicable. As such, the MWMP is subject to regulations set forth in the SDMC, specifically Chapter 14 of the LDC and the supporting policy documents in the LDM. The LDM is composed of Volume I (Application and Processing), Volume II (Development Review), and existing Appendices as follows:

Volume I

- Submittal Requirements
- Fees and Deposits

Volume II

- Biology Guidelines
- Coastal Bluffs and Beaches Guidelines

- Deviations from Environmentally Sensitive Lands Regulations Within the Coastal Overlay Zone
- Historical Resources Guidelines
- Landscape Standards
- Steep Hillside Guidelines

Appendices

- California Environmental Quality Act Significance Determination Thresholds
- Drainage Design Manual
- Technical Guidelines for Geotechnical Reports
- Manual for Land Development and Public Improvement Plans
- Reclaimed Water Manual
- Standard Drawings
- Street Design Manual
- Mapping and Land Title Document Preparation Manual
- Transit-Oriented Development Design
- Trip Generation Manual
- Water & Sewer Design Guide
- Storm Water Standards Manual
- General Grading Guidelines for Paleontological Resources
- Determining Transportation Amenities Required by the parking Standards Transit Priority Area Regulations

In addition to the permit requirements set forth in LDC Chapter 12, Article 6, Division 5 (Site Development Permit Procedures) and Chapter 12, Article 6, Division 7 (Coastal Development Permit Procedures), the most notable regulations and policies that would apply to MWMP activities, as described in this Section and other Sections of this EIR, are further described below.

Biology Guidelines

The City of San Diego developed the SDBG presented in the LDM "to aid in the implementation and interpretation of the ESL Regulations within the San Diego LDC Chapter 14, Division 1, Section 143.0101 et seq., and the Open Space Residential (OR-1-2) Zone, Chapter 13, Division 2, Section

131.0201 et seq." (City of San Diego 2018a). The guidelines also provide standards for the determination of impact and mitigation under CEQA and the California Coastal Act (CCA).

Chapter 14 of the LDC describes general regulations for development with specific regulations pertaining to environmentally sensitive lands, including wetlands (SDMC Section 143.0141(b)). Guidelines that supplement the development regulation requirements described in this section are provided in the SDBG (City of San Diego 2018a).

Environmentally Sensitive Lands Regulations

The purpose of the City's ESL Regulations (LDC, Chapter 14, Article 3, Division 1) are to "protect, preserve, and, where damaged restore, the environmentally sensitive lands of San Diego and the viability of the species supported by those lands." These regulations are intended to ensure that development, including coastal development in the Coastal Overlay Zone, occurs in a manner that protects the overall quality of the resources and the natural and topographic character of the area, encourages a sensitive form of development, retains biodiversity and interconnected habitats, maximizes physical and visual public access to and along the shoreline, and reduces hazards due to flooding in specific areas while minimizing the need for construction of flood control facilities. As defined in LDC Section 113.0103, ESL means land containing steep hillsides, sensitive biological resources, coastal beaches, sensitive costal bluffs, or Special Flood Hazard Areas. The ESL Regulations and LDM supporting documents (Biology, Steep Hillside, and Coastal Bluffs and Beaches Guidelines) serve as standards for the determination of impacts and mitigation under CEQA and the California Coastal Act, but also serve to implement the MSCP, including the MSCP Subarea Plan and *Vernal Pool Habitat Conservation Plan*.

Unless specifically exempted, ESL Regulations apply to all proposed development when any of the following ESL are present on the premises: sensitive biological resources, steep hillsides (defined generally as all lands that have a slope with a natural gradient of 25% or greater with a length of 50 feet or more), coastal beaches, sensitive coastal bluffs, and Special Flood Hazard Areas. All proposed developments subject to ESL Regulations that encroach into ESL must obtain either a Neighborhood Development Permit or a Site Development Permit (SDP), unless exempt in accordance with LDC Section 143.0110(c). If development is proposed in the Coastal Overlay Zone, a Coastal Development Permit (CDP) is also required. Limited exceptions to ESL Regulations apply in certain circumstances.

Plans submitted in accordance with the ESL Regulations shall, to the maximum extent feasible, comply with the various ESL Regulations. If a proposed development does not comply with all applicable development ESL Regulations, the decision-maker may approve, conditionally approve, or deny the proposed SDP and grant the deviation based on specific findings that must be made in accordance with LDC Section 143.0150.

Outside the Coastal Overlay Zone, deviations to the wetland regulations in Section 143.0141(b) can be granted if applicable findings are made and the project falls under one of the following three options: (1) Essential Public Project Option, (2) Economic Viability Option, or (3) Biologically Superior Option. MWMP activities that may require a deviation from ESL (specifically wetland regulations) would fall under the Essential Public Projects Option because there would be no feasible alternative that would avoid wetlands and the activity would be the maintenance of existing public infrastructure.

Within the Coastal Overlay Zone, deviations from ESL Regulations, including wetland regulations, may only be granted if the decision-maker determines the uses permitted by the regulations will not provide an economic viable use of the property based on the findings associated with the project's CDP.

Within the Coastal Overlay Zone, the ESL Regulations generally establish a 25% allowable development area in steep hillside areas, although development of up to 40% is permitted under certain circumstances for certain types of development, including public utility systems. Additionally, for projects occurring within the Coastal Overlay Zone, the ESL Regulations require a 100-foot buffer to be maintained around all wetlands, as appropriate, to protect the functions and values of the wetland. A lesser or greater buffer may be warranted based on consultation with the resources agencies (i.e., U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife).

The City's LDM includes several guidance documents such as the SDBG, Coastal Bluffs and Beaches Guidelines, Steep Hillside Guidelines, and Deviations from ESL Regulations Within the Coastal Overlay Zone, which provide additional information regarding the requirements, implementation and compliance for development set forth in the ESL Regulations.

Coastal Bluff and Beaches Guidelines

Coastal Bluffs and Beaches Guidelines are intended to assist in the interpretation and implementation of the development regulations for sensitive coastal bluffs and coastal beaches contained in Chapter 14, Article 3, Division 1, ESL Regulations. Every development proposed on a sensitive coastal bluff (within 100 feet of the bluff edge) or on a site containing a coastal beach (where the development would be within 100 feet of the beach) is subject to the ESL Regulations and evaluated for conformance with the guidelines as part of the review process for the required Site Development Permit unless the proposed development is exempt from the ESL Regulations pursuant to Section 143.0110(c). In addition to the findings required for the Site Development Permit, supplemental findings for ESLs must also be made to approve the development. A Coastal Development Permit is required, in addition to the Site Development Permit, for all coastal development proposed within the Coastal Overlay Zone that does not qualify for an exemption pursuant to Section 126.0407.

Steep Hillside Guidelines

The Steep Hillside Guidelines are divided into four sections, each providing standards and guidelines intended to assist in the interpretation and implementation of the development regulations for steep hillsides contained in Chapter 14, Article 3, Division 1, ESL Regulations. Every proposed development that encroaches into steep hillsides is subject to the ESL Regulations and is evaluated for conformance with the Steep Hillside Guidelines as part of the review process for the required Neighborhood Development Permit, Site Development Permit, or Coastal Development Permit.

Historical Resources Regulations

The purpose of the Historical Resources Regulations (LDC Chapter 14, Article 3, Division 2) is to protect, preserve and, where damaged, restore the historical resources of San Diego, which include historical buildings, historical structures or historical objects, important archaeological sites, historical districts, historical landscapes, and traditional cultural properties. These regulations are intended to assure that development occurs in a manner that protects the overall quality of historical resources. It is further the intent of these regulations to protect the educational, cultural, economic, and general welfare of the public, while employing regulations that are consistent with sound historical preservation principles and the rights of private property owners.

Minor alteration of a designated historic resource may be permitted if it would not adversely affect the special character or special historical, architectural, archaeological, or cultural value of the resource and would be consistent with the Secretary of the Interior's Standards for Rehabilitation (Rehabilitation Standards) and Illustrated Guidelines for Rehabilitating Historic Buildings. A permit is required for any development on a premise that has historical resources on a site that would adversely affect the historical resources and is not consistent with one or more of the exemption criteria outlined in the regulations. An SDP is required for certain development proposals that do not qualify for an exemption in accordance with the regulations.

Important archaeological sites generally are to be conserved, except in cases when impacts are necessary to achieve a reasonable development area, with up to 25% encroachment into any important archaeological site allowed. Any encroachment into important archaeological sites is required to include measures to mitigate for the partial loss of the resource as a condition of approval. The mitigation is required to include preservation through avoidance of the remaining portion of the important archaeological site, and implementation of a research design and data recovery program that recovers the scientific value of the portion of the site that would be impacted. If a proposed development cannot, to the maximum extent feasible, comply with the Historical Resources Regulations, a deviation may be granted subject to the decision-maker making findings in accordance with LDC Section 126.0504.

The Historical Resources Guidelines included in the LDM provide property owners, the development community, consultants and the general public with explicit guidelines for the management of historical resources located within the jurisdiction of the City of San Diego. These guidelines are designed to implement the City's Historical Resources Guidelines in compliance with applicable local, state, and federal policies and mandates, including the Historic Preservation Element of the City's General Plan, the California Environmental Quality Act of 1970, and Section 106 of the National Historic Preservation Act of 1966. The intent of the Historical Resources Guidelines is to ensure consistency in the management of the City's historical resources, including identification, evaluation, preservation/mitigation, and development.

Noise Ordinance

Although not a part of the LDC, Chapter 5, Article 9.5, Division 4 of the SDMC sets forth sound level limits within the City. These regulations include sound level limits at any location on or beyond the boundaries of the property on which noise is produced, including specific land uses, motor vehicles, watercraft, construction noise, as well as refuse vehicles and parking lot sweepers.

Coastal Overlay Zone General Development Regulations

Chapter 13, Article 2, Division 4 includes general development regulations for all properties located within the boundaries of the Coastal Overlay Zone as designated on Map No. C-908. These regulations are intended to protect and enhance the quality of public access and coastal resources and include reference to supplemental development regulations, such as ESL in the Coastal Overlay Zone, that would apply to any coastal development.

The LDM's Coastal Bluffs and Beaches Guidelines, SDBG, and Deviations from Environmentally Sensitive Lands Regulations Within the Coastal Overlay Zone provide specific guidance and policies to protect sensitive resources within the City's Coastal Overlay Zone jurisdiction.

Grading Regulations

Chapter 14, Article 2, Division 1 of the LDC includes regulations pertaining to grading, which address slope stability, protection of property, erosion control, water quality, landform preservation, and paleontological resources preservation, and serve to protect the public health, safety, and welfare of persons, property, and the environment. These regulations and development standards apply to all grading work whether or not a permit or other approval is required.

In accordance with LDC Section 142.0130(a), all *grading* shall be designed and performed in conformance with applicable City Council policies and the standards established in the LDM. These LDM policies and standards include the following:

- Coastal Bluffs and Beaches Guidelines

- Biology Guidelines
- Historical Resources Guidelines
- Storm Water Standards Manual
- Landscape Standards
- Drainage Design Manual
- Technical Guidelines for Geotechnical Reports
- General Grading Guidelines for Paleontological Resources

Storm Water Runoff and Drainage Regulations

The primary purpose of the City's Storm Water Runoff and Drainage Regulations (LDC Chapter 14, Article 2, Division 2) are to regulate the development of, and impacts to, drainage facilities; to limit water quality impacts from development; to minimize hazards due to flooding while minimizing the need for construction of flood risk reduction facilities; to minimize impacts to ESL; to implement the provisions of federal and state regulations; and to protect the public health, safety, and welfare. These regulations apply to all development in the City, whether or not a permit or other approval would be required.

Additional information regarding the requirements, implementation and compliance for development set forth in the Storm Water Runoff and Drainage Regulations can be found in the LDM's Drainage Design Manual, as well as the Storm Water Standards Manual.

Landscape Regulations

The City's Landscape Regulations (LDC Chapter 14, Article 2, Division 4) are intended to regulate development to minimize the erosion of slopes and disturbed lands through revegetation; to conserve energy by the provision of shade trees over *streets*, sidewalks, parking areas, and other paving; to conserve water through low-water-using planting and irrigation design; to reduce the risk of fire through site design and the management of flammable vegetation ; and to improve the appearance of the built environment by increasing the quality and quantity of landscaping visible from *public rights-of-way*, private streets, and adjacent properties, with the emphasis on landscaping as viewed from *public rights-of-way*.

The City's Landscape Standards, which is included in the City's LDM, provides additional information regarding the requirements, implementation and compliance for development set forth in the Landscape Regulations.

5.8.4 THRESHOLDS OF SIGNIFICANCE

The City's *CEQA Significance Determination Thresholds* (City of San Diego 2016b) and Appendix G of the CEQA Guidelines contain significance guidelines related to land use. The following questions are adapted from the City's Significance Determination Thresholds and provide guidance to determine potential significance for Land Use.

Issue 1: Would the project result in a conflict with goals, objectives, and recommendations of the community plan in which it is located?

Issue 2: Would the project require a deviation or variance, and the deviation or variance would in turn result in a physical impact on the environment?

Issue 3: Would the project result in a conflict with the provisions of the City's Multiple Species Conservation Program Subarea Plan or other approved local, regional or state habitat conservation plan?

5.8.5 APPROACH AND METHODOLOGY

The activities proposed in the MWMP were developed with the goal of avoiding and minimizing potential impacts related to land use conflicts, and minimizing potential impacts associated with land use compatibility. As such, the following Environmental Protocol is identified as part of the proposed MWMP because this specific Environmental Protocol serves to reduce such impacts.

Environmental Protocols

EP-LU-1 **MSCP/MHPA – Land Use Adjacency Guidelines.** City of San Diego Transportation & Storm Water Department (TSW) shall accurately represent the project's design in or on the Maintenance Plans in conformance with the associated discretionary permit conditions, *Municipal Waterways Maintenance Plan* (MWMP), and the City's Multiple Species Conservation Program (MSCP) Multi-Habitat Planning Area (MHPA) Land Use Adjacency Guidelines. The Maintenance Plans and subsequent review documents shall include the following:

A. ***Drainage*** – All new and proposed parking lots and developed areas in and adjacent to the preserve must not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm the natural environment or ecosystem processes within the MHPA. This can be accomplished using a variety of methods including natural detention basins,

grass swales or mechanical trapping devices. These systems should be maintained approximately once a year, or as often as needed, to ensure proper functioning. Maintenance should include dredging out sediments if needed, removing exotic plant materials, and adding chemical-neutralizing compounds (e.g., clay compounds) when necessary and appropriate.

Ground disturbance under the MWMP shall be limited to removal of accumulated material in storm water facilities and no paved lots or new development shall be installed. Measures would be taken to prevent runoff of hazardous materials from access, staging, and stockpile locations consistent with the City Storm Water Standards Manual, see EP-WQ-1 in Section 5.12, Water Quality.

B. Toxics/Project Staging Areas/Equipment Storage – Land uses, such as recreation and agriculture, that use chemicals or generate byproducts such as manure, that are potentially toxic or impactive to wildlife, sensitive species, habitat, or water quality need to incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. Such measures should include drainage/detention basins, swales, or holding areas with non-invasive grasses or wetland-type native vegetation to filter out the toxic materials. Regular maintenance should be provided. Where applicable, this requirement should be incorporated into leases on publicly-owned property as leases come up for renewal.

The use chemicals pesticides, herbicides, and other substances that are potentially toxic or impactive to native habitats/flora/fauna (including water) shall be accompanied by measures that reduce impacts caused by the application and/or drainage of such materials into the MHPA consistent with the City Storm Water Standards Manual (see EP-WQ-1 in Section 5.12, Water Quality).

C. Lighting – Lighting of all developed areas adjacent to the MHPA should be directed away from the MHPA. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.

No permanent lighting or routine night work is proposed under the MWMP. See EP-BIO-2 in Section 5.3, Biological Resources.

D. Noise – Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that may introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year.

See MM-BIO-4, MM-BIO-5, MM-BIO-6, and MM-BIO-7 in Section 5.3, Biological Resources.

E. Barriers – New development adjacent to the MHPA may be required to provide barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) along the MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation.

Not applicable to MWMP maintenance activities because no developed land uses are proposed. Compensatory mitigation installed under the MWMP shall include appropriate barriers or directive fences to protect the MHPA.

F. Invasives – No invasive non-native plant species shall be introduced into areas adjacent to the MHPA.

Any plant species installed within 100 feet of the MHPA as part of revegetation work shall comply with the Landscape Regulations (LDC Section 142.0400 and per Table 142-04F, Permanent Revegetation and Irrigation Requirements) and be non-invasive. Also, see EP-BIO-4 in Section 5.3, Biological Resources.

G. Brush Management – New residential development located adjacent to and topographically above the MHPA (e.g., along canyon edges) must be set back from slope edges to incorporate Zone 1 brush management areas on the development pad and outside of the MHPA. Zones 2 and 3 will be combined into one zone (Zone 2) and may be located in the MHPA upon granting of an easement to the City (or other acceptable agency) except where narrow wildlife corridors require it to be located outside of the MHPA. Zone 2 will be increased by 30 feet, except in areas with a low fire hazard severity rating where no Zone 2 would be required. Brush management zones will not be greater in size that is currently required by the City's regulations. The amount of woody vegetation clearing shall not exceed 50% of the vegetation existing when the initial clearing is done. Vegetation clearing shall be done consistent with City standards and

shall avoid/minimize impacts to covered species to the maximum extent possible. For all new development, regardless of the ownership, the brush management in the Zone 2 area will be the responsibility of a homeowners association or other private party.

Not applicable to MWMP activities because no developed land uses or structures requiring fire protection are proposed.

H. Grading/Land Development/MHPA Boundaries – Manufactured slopes associated with site development shall be included within the development footprint for projects within or adjacent to the MHPA.

No manufactured slopes are proposed or associated with the MWMP.

EP-LU-2 **MSCP/MHPA – Boundary Line Adjustment.** Compensatory Mitigation Sites proposed to be added to the MHPA must result in an equivalent or higher biological value for the following areas, based on findings prepared by the City and concurrence received from the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife:

- Effects on significantly and sufficiently conserved habitats
- Effects to covered species
- Effects on habitat linkages and function of preserve areas
- Effects on preserve configuration and management
- Effects on ecotones or other conditions affecting species diversity
- Effects to species of concern not on the covered species list

5.8.6 IMPACTS

As described in Chapter 4, Project Description, of this EIR, the MWMP includes a description of maintenance and repair activities, and supporting implementation methods. The majority of these activities are routine and anticipated to occur in conformance with specific FMPs included in the MWMP (Appendix A). Routine refers to typical activities that occur on a regular, ongoing basis and are associated with maintaining storm water infrastructure. However, additional activities not identified in an FMP may be required and may occur anywhere within the City's storm water conveyance system.

Potential site-specific impacts associated with implementation of MWMP activities and methods as identified in the FMPs are described below under the "Project-Level Analysis (FMPs)" heading for

each of the issues identified. As further detailed in Chapter 4, Project Description, MWMP activities consist of maintenance and repair activities. Maintenance activities include vegetation and invasive plant species management, sediment/debris removal, structural/debris/trash-fence clearing, and culvert clearing. Repair activities include concrete (minor and major) and bank repair, and structural/debris/trash-fence repair.

Potential impacts associated with implementation of additional MWMP activities and methods (i.e., minor maintenance, changed conditions/new or substantially amendment FMPs, compensatory mitigation sites, and emergency maintenance) are identified in Section 5.8.7, Program-Level Analysis (Other MWMP Activities). These impacts are analyzed to the extent feasible at this time; however, additional project-level CEQA analysis and/or new or amended permits may be required prior to implementation.

Issue 1: Would the project result in a conflict with goals, objectives, and recommendations of the community plan in which it is located?

Project-Level Analysis (FMPs)

This analysis evaluates the consistency and compatibility of the MWMP with relevant land use plans, policies, and regulations to identify potential conflicts. The analysis determines whether there is the potential for physical incompatibilities between the underlying land use, whereby maintenance or repair activities to the storm water system would cause potential impacts. Other environmental effects, such as noise generation or air quality issues resulting from equipment use, are addressed within other EIR discussion sections. Land use impacts resulting from the proposed MWMP are evaluated below. For a detailed analysis of other environmental impacts that would result from the proposed MWMP, see Sections 5.1 through 5.12 of this EIR.

General Plan and Community Plan Consistency

The City's municipal storm water system is distributed throughout the 342-square-mile metropolitan area. As a result, the land use and zoning designations vary, as do the applicable Community Plans. The General Plan and the associated community plans identify and describe planned land uses designed to achieve the community's long-range goals. These plans also establish policies to direct land use and development. The proposed MWMP involves maintenance and repair activities of existing aboveground infrastructure associated with existing channels and drainage structures. Maintenance activities include vegetation management, sediment removal, drain structural clearing (outlets and inlets), and invasive plant species management. Channel repair activities include concrete repair and replacement, and bank repair. The MWMP facilities exist within the planning framework and land use designations established by their respective community plans. There would be no new development, and the proposed MWMP would not require or result in changes to land uses or zoning

designations. Overall, the proposed MWMP, which is considered a maintenance rather than a development plan, is not anticipated to conflict with any applicable adopted land use plan.

The proposed MWMP is intended to maintain, repair, and improve existing infrastructure, as necessary, to ensure the reliability of the City's storm water system. The MWMP was reviewed for applicability of and conformity with the goals, policies, and recommendations of the General Plan and community plans (see Table 5.8-1, General, Community, and Park Plan Policy Evaluation). The MWMP directly supports or conforms to various goals and policies (e.g., General Plan Public Facilities, Services and Safety Element Policies PF-G.2, PF-G.3, PF-G.4, PF-G.5, and PF-G.6), and is compatible with other goals and policies as evaluated in Table 5.8-1. However, activities under the MWMP that would necessitate vegetation removal, some of which would be wetland or riparian habitat, potentially conflict with goals and policies intended to preserve sensitive biological resources (e.g., General Plan Conservation Element Policies CE-C.1 and CE-H.8). The potential inconsistency with goals and policies intended to protect sensitive biological resources can generally be addressed by the application of the ESL Regulations to the MWMP or its components (see discussion below). Compliance with the ESL Regulations is intended to serve as effective implementation of goals and policies relevant to protection of sensitive biological resources, including lands within the MHPA. Additionally, since vegetation diminishes the ability of storm water facilities to safely transport floodwaters, it must be removed to prevent flooding and to improve the overall intended functionality of these storm water facilities and meet the primary project objectives of the MWMP (see Chapter 4, Project Description, Section 4.3-1).

Additionally, a project is considered consistent with the applicable plan(s), such as the General Plan, if it will further the objectives and policies of the plan(s) and not obstruct their attainment. In fact, a project "need not be in perfect conformity with each and every [general plan] policy" since "no project [can] satisfy every [general plan] policy" (*Sierra Club v. County of Napa* (2004) 121 Cal.App.4th 1490, 1509 [quoting *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 719; *Families Unafraid to Uphold Rural Etc. County v. Board of Supervisors* (1998) 62 Cal.App.4th 1332, 1336]). However, "the nature of the policy and the nature of the inconsistency are critical factors to consider" (*Families Unafraid to Uphold Rural El Dorado County v. Board of* Supervisors, 62 Cal. App. 4th 1332, 1341 [1998]). Thus, a project will be held inconsistent with a plan where it is clearly inconsistent with a fundamental, mandatory, or specific policy, or if it is not compatible with and will frustrate the plan's goals and policies (9 Miller & Staff, Cal. Real Est. Sec. 25:40 [3d e. 2007], Citing *Families Unafraid*, 62 Cal. App. 4th at 1340; *Napa Citizens for Honest Government v. Napa County Bd. Of Supervisors*, 91 Cal. App. 4th 342, 378-80 [2001]). Furthermore, any such inconsistency that results in a physical change to the environment that results in a significant environmental impact should be analyzed in the other issue area sections of an EIR. As such, potential impacts associated with MWMP activities have been analyzed throughout this EIR (Sections 5.1 through 5.12), and mitigation measures and environmental protocols have been provided to reduce impacts, when feasible.

Therefore, as detailed in Table 5.8-1, the proposed MWMP is largely consistent with the goals and policies of the General Plan, community plans, and park plans, and it would not preclude their attainment; impacts would be **less than significant**.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
City of San Diego General Plan	
Land Use and Community Planning Element • **Land Use Consistency Goal**: Zoning concurrent with community plan updates and amendments to ensure consistency with community plan land use designations.	The MWMP would be concurrent with community plan updates and amendments. The MWMP would maintain existing facilities and would not construct any new facilities. The MWMP would allow the City to efficiently and effectively obtain approvals for required flood protection and related beneficial drainage activities, thus providing the City with sufficient storm water drainage. **The MWMP would be consistent with this goal**.

Urban Design Element
 	
• **Urban Design Goal:** A built environment that respects San Diego's natural environment and climate.
• **Urban Design Goal:** Utilization of landscape as an important aesthetic and unifying element throughout the City.
  • *Policy UD A.3*: Design development adjacent to natural features in a sensitive manner to highlight and complement the natural environment in areas designated for development.
  • *(l)* Protect views from public roadways and parklands to natural canyons, resource areas, and scenic vistas.
	No new facilities are proposed as a component of the MWMP. Channels, ditches, basins, and other MWMP facilities are singular features in the landscape that, along with nearby land uses, development, and vegetation, contribute to the overall visual character of an area. The MWMP would include repair and maintenance activities that would be employed at these existing facilities. As stated above, no new facilities are proposed. The MWMP would not open up new areas for development such that the existing visual character of a particular area would be fundamentally altered, such as by introduction of new urban development in a rural area. The repair and maintenance activities described in Chapter 4, Project Description, consist of activities that are currently employed by the City to maintain existing facilities, ditches, basins, and outlet and inlet structures. As such, repair and maintenance activities would not result in long-term visual contrast or visual change that constitutes substantial alteration of existing visual character of an area or a "negative" aesthetic site.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	Typical vegetation (including invasive plant species) management activities would include grubbing, trimming, and/or removal of vegetation from channel/ditches, basins and small areas in front of structures. Although the visual effects of vegetation management may be noticeable to nearby receptors, these activities would be needed to reduce flood risk and restore conveyance capacities to as-built conditions. The growth, maintenance, die-back/die-off, and regrowth of vegetation within channels/ditches and basins is a cyclical process that currently exists in these communities. See Section 5.1, Aesthetics/Visual Effects and Neighborhood Character. **The MWMP would be consistent with these goals**.
Noise Element • *Noise Policy A.1*: Separate excessive noise-generating uses from residential and other noise-sensitive land uses with a sufficient spatial buffer of less sensitive uses.	The City of San Diego's 12-hour average construction noise standard of 75 dBA L_{eq} would not be exceeded at a distance of 100 feet for any of the representative projects. For instances in which noise-sensitive receives are located less than 100 feet from maintenance activities, temporary significant noise increases could result. Therefore, maintenance noise impacts for the activities conducted under the MWMP, while temporary, are considered potentially significant. Mitigation measure **MM-NOI-1** is provided, which would reduce the noise from maintenance activities to a level of less than significant. See Section 5.9, Noise. Therefore, with mitigation, no noise impacts would result, and the MWMP would be consistent with this goal. General Plan Table K-4 is the City's Noise Land Use Compatibility Chart, which is primarily a planning tool to ensure long-term compatibility of various land uses. As discussed in the Noise

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	Technical Report (Appendix G Section 4.2.2.4), the proposed MWMP would not result in any long-term development, operational equipment, or new employees. Therefore, no operational noise would be created, and the proposed MWMP would be compatible with the standards in Table K-4. See Section 5.9, Noise. As such, **the MWMP would be consistent with this policy**.

Public Facilities, Services, and Safety Element
 	
• **Public Facilities, Services, and Safety Goal**: Protection of beneficial water resources through pollution prevention and interception efforts.
• **Public Facilities, Services, and Safety Goal**: A storm water conveyance system that effectively reduces pollutants in urban runoff and storm water to the maximum extent practicable.
  • *Policy PF-G.1*. Ensure that all storm water conveyance systems, structures, and maintenance practices are consistent with federal Clean Water Act and California Regional Water Quality Control Board NPDES Permit standards.
  • *Policy PF-G.2*. Install infrastructure that includes components to capture, minimize, and/or prevent pollutants in urban runoff from reaching receiving waters and potable water supplies.
  • *Policy PF-G.3*. Meet and preferably exceed regulatory mandates to protect water quality in a cost-effective manner monitored through performance measures.
	The MWMP would ensure that storm water facilities are cleaned and maintained to provide ongoing adequate storm water drainage and to reduce the frequency and likelihood of flooding during certain storm events. The MWMP would improve and maintain water quality within affected storm water facilities by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment. No new public facilities would be constructed, and the MWMP would not alter natural landforms.
	
	The City has storm water standards in place (City of San Diego 2018b) to ensure that proposed MWMP maintenance activities are developed and conducted in a manner that avoids increases in pollutant discharge to receiving waters and/or groundwater. Also, compliance with the storm water standards would ensure that proposed MWMP maintenance activities are properly implemented to protect surface water quality and avoid violation of water quality standards or Waste Discharge Requirements.
	
	Consistent with the state's Construction General Permit (Order 2012-0006-DWQ, NPDES No. CAS000002) and the City's Storm Water

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
• *Policy PF-G.4*. Develop and employ a strategic plan for the City's watersheds to foster a comprehensive approach to storm water infrastructure improvements. • *Policy PF-G.5*. Identify and implement BMPs for projects that repair, replace, extend or otherwise affect the storm water conveyance system. These projects should also include design considerations for maintenance, inspection, and, as applicable, water quality monitoring. • *Policy PF-G.6*. Identify partnerships and collaborative efforts to sponsor and coordinate pollution prevention BMPs that benefit storm water infrastructure maintenance and improvements. • **Prioritization Goal**: Public facilities and services that are equitably and effectively provided through application of prioritization guidelines. • **Public Utilities Goal**: Public utilities that sufficiently meet existing and future demand with facilities and maintenance practices that are sensible, efficient and well-integrated into the natural and urban landscape.	Standards Manual, the MWMP is exempt from permanent, post-construction best management practice (BMP) requirements because the MWMP program consists of routine maintenance activities and no additional impervious area is proposed. However, the Storm Water Standards Manual contains minimum requirements for implementation of construction-phase-related storm water BMPs, and these would apply to all MWMP facilities. Minimum construction-related BMPs, which all public and private development projects must implement, are required by the Storm Water Standards Manual regardless of whether they require coverage under the state's Construction General Permit. For activities not subject to the Construction General Permit, the City's Storm Water Standards Manual require the development of a *Water Pollution Control Plan* (WPCP) (**EP-WQ-1**), which outline the BMPs and pollution prevention measures that would be implemented (hereafter referred to as "standard BMPs" and "enhanced BMPs"). The standard BMPs are similar to the general water quality BMPs required under the Construction General Permit. Facility-specific WPCPs would be developed prior to maintenance using the WPCP guidance document specific to the MWMP (City of San Diego 2018b). These facility-specific WPCPs would be tailored to address facility-specific water quality conditions and BMP requirements based on the actual maintenance procedures that would be performed.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	Potential long-term impacts to water quality may occur if MWMP activities would otherwise degrade water quality. The potential for proposed MWMP maintenance to result in long-term degradation of water quality is reduced by the following approach: 1. The MWMP incorporates avoidance and minimization of impacts by using hydrology-based data to minimize maintenance to only those areas where maintenance provides a reduction in flood risk. This approach is also coordinated with the City's Watershed Master Plans and WQIPs to plan for integrated flood management and water quality improvements. 2. Where maintenance or repair activities results in unavoidable wetland impacts, the City would implement compensatory wetlands mitigation at established ratios (**MM-BIO-1a**). Wetlands mitigation would provide compensation for the loss of functions and values that may result from maintenance or repair activities. The established ratios account for the multiple functions that wetlands can support, including those associated with pollutant assimilative capacity losses and temporal loss (e.g., time between impact and establishment of functioning habitat). The established mitigation ratios are also sufficient to mitigate wetland area and function in typical development scenarios where wetlands are fully removed and constructed over (e.g., development over a previous

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	wetland area and storm water is then conveyed in an underground piped system). If mitigation is not constructed at the time of maintenance, there is a potential that mitigation may not be fully functioning within a 5-year timeframe. To provide a further offset to this potential impact, the City has developed a suite of additional water quality activities to provide offsetting water quality benefits in situations where wetlands mitigation has not been constructed at the time maintenance occurs. One of three equally suitable beneficial water quality activities listed in Section 5.12.9 would be implemented (**MM-WQ-1**). Items 1 or 2 would be implemented each fiscal year that maintenance occurs and Item 3 would be implemented once. No additional water quality activities would be required. Therefore, **the MWMP would be consistent with these goals**.
Recreation Element • **Open Space Lands and Resource-Based Parks Goal**: An open space and resource-based park system that provides for the preservation and management of natural resources,	The MWMP would provide maintenance of storm water facilities, would not affect outdoor recreation opportunities, and would protect public health and safety through the cleaning of storm water facilities and preventing future flooding, thus decreasing risk to life and property. Drainage course configuration would remain

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
enhancement of outdoor recreation opportunities, and protection of the public health and safety. • **Open Space Lands and Resource-Based Parks Goal**: Preservation of the natural terrain and drainage systems of San Diego's open space lands and resource-based parks.	preserved as part of the MWMP, and no alteration of natural terrain would occur. The MWMP has been designed to minimize and avoid impacts to sensitive biological resources, such as wetlands, and any impacts to wetlands would be mitigated for. Mitigation typically occurs in open space/conservation areas; thus, the MWMP could potentially contribute to the City's overall open space system. **The MWMP would be consistent with these goals**.

Conservation Element
 	
• **Coastal resource preservation and enhancement**.
  • *Policy CE-C.1*: Protect, preserve, restore and enhance important coastal wetlands and habitat (tide pools, lagoons and marine canyons) for conservation, research, and limited recreational purposes.
  • *Policy CE-C.6*: Implement watershed management practices designed to reduce runoff and improve the quality of runoff discharged into coastal waters.
• **Urban Runoff Management Goal**: Protection and restoration of water bodies, including reservoirs, coastal waters, creeks, bays, and wetlands.
• Preservation of natural attributes of both the floodplain and floodway without endangering life and property.
	The MWMP would ensure that the City's storm water facilities are cleaned and maintained to provide adequate ongoing water drainage and to reduce potential flooding. Drainage course configuration would remain preserved as part of the MWMP, and no alteration of natural terrain would occur. The MWMP has been designed to minimize and avoid impacts to sensitive biological resources, such as wetlands, and any impacts to wetlands would be mitigated for. The MWMP would include pollution prevention and interception through the cleaning of storm water facilities.
	
	Proposed MWMP beneficial water quality activities (**MM-WQ-1**) include maintenance-activity-specific outreach, enhanced catch basin cleaning, street sweeping, and/or select green infrastructure (see Table 5.12-4 in Section 5.12, Water Quality). Within the context of the MWMP, green infrastructure can potentially include low-impact development BMPs, multi-use treatment areas, or stream rehabilitation projects.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation

• **Wetlands Goal**: Preservation of San Diego's rich biodiversity and heritage through the protection and restoration of wetland resources.
• **Wetlands Goal**: Preservation of all existing wetland habitat in San Diego through a "no-net-loss" approach.
  • *Policy CE-H.1*: Use a watershed planning approach to preserve and enhance wetlands.
  • *Policy CE-H.8*: Implement a "no net loss" approach to wetlands conservation in accordance with all city, state, and federal regulations.
• **Biological Diversity Goal**: Preservation of healthy biologically diverse regional ecosystems and conservation of endangered, threatened, and key sensitive species and their habitats.
  • *Policy CE-G.1*: Preserve natural habitats pursuant to the MSCP, preserve rare plants and animals to the maximum extent practicable, and manage all City-owned native habitats to ensure their long-term biological viability.
  • Educate the public about the impacts invasive plant species have on open space.
  • Remove, avoid, or discourage the planting of invasive plant species.
  • Pursue funding for removal of established populations of invasive species within open space.
	Since the storm water conveyance systems are typically located within drainages or streambeds and can be associated with core biological resource areas and the MHPA, complete avoidance of wetlands is infeasible. However, analyses have been conducted to ensure that maintenance activities that impact wetlands and other biological resources, both outside and within the MHPA, are minimized to only those areas where a flood risk reduction or infrastructure maintenance or repair is necessary, and where biological impacts can be mitigated to below a level of significance.
	
	Regarding CE-G.5, in those instances when the hydrologic and hydraulic analysis indicated that velocities in the maintained condition were greater than the recommended permissible velocities (for Category 2 and 3 segments), two options were evaluated to bring flow velocities into a range that would reduce impacts to less than significant:
	
	1. Avoidance or minimization of substantial impacts by revising the MWMP to avoid hydraulic impacts by limiting the facility area to be maintained and/or modifying maintenance methods.
	2. Implementation of mitigation measures for post-maintenance erosion control to reduce flow velocities in the post-maintenance condition.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
• *Policy CE-G.4*: Protect important ecological resources when applying floodplain regulations and development guidelines. • *Policy CE-G.5*: Promote aquatic biodiversity and habitat recovery by reducing hydrological alterations, such as grading a stream channel. • **Open Space and Landform Preservation Goal**: Preservation and long-term management of the natural landforms and open spaces that help make San Diego unique. • *Policy CE-B.1*: Protect and conserve the land forms canyon lands and open spaces that: define the City's urban form; provide public views/vistas; serve as core biological areas and wildlife linkages; are wetlands habitats; provide buffers within and between communities; or provide outdoor recreational opportunities. • *C)* Protect urban canyons and other important community open spaces including those that have been designated in community plans for the many benefits they offer locally and regionally as part of a collective citywide open space system. • *Policy CE-B.2*: Apply the appropriate zoning and Environmentally Sensitive Lands (ESL) regulations to limit development of flood plains sensitive biological areas including wet lands steep hillsides canyons and coastal lands. • *Policy CE-B.4*: Limit and control runoff sedimentation and erosion both during and after construction activity.	There would be no impact to concrete-lined facilities as a result of changes in flow velocities and drainage patterns in a manner that would result in substantial increased erosion. However, alteration of existing drainage patterns within concrete-lined facilities may result in increased erosion if upstream or downstream facilities are earthen-bottom. In addition, increased flow velocities in earthen-bottom facilities could result in on-site and off-site erosion. However, with implementation of **EP-HYD-1**, potentially significant long-term erosion-related impacts to earthen-bottom facilities would be reduced to less than significant. The MWMP would not result in the loss of open space and would not alter San Diego's natural terrain. Drainage course configuration would remain preserved as part of the MWMP, and no alteration of natural terrain would occur. No new development is proposed, and the MWMP has been designed to minimize visual and physical impacts on the open space system. Thus, **the MWMP would be consistent with these goals and policies**.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Historical Preservation Element • **Identification and Preservation of Historical Resources Goal**: Preservation of the City's important historical resources.	The MWMP has the potential to impact historical resources during maintenance and repair activities. However, mitigation measures would be implemented with the MWMP, which would reduce the potential impacts to historical resources to less than significant. **The MWMP would be consistent with this goal**.
Community Plans	
Clairemont Mesa Community Plan	
Open Space and Environmental Resources Element **Open space and Environmental Resources Goal:** Provide an open space system which preserves existing canyons and hillsides and dedicate open space areas as infill development occurs in the community. *Objectives* • Reduce runoff and the alteration of the natural drainage system. • Protect the resource value of canyon areas and plant and animal wildlife within the community. • Protect the resource value of artifacts and paleontological remains and the community's heritage for future generations. *Recommendations* • Any development proposed within or adjacent to the designated open space areas should be subject to development standards of the Hillside Overlay Zone and	The MWMP would not result in the loss of open space and would not alter San Diego's natural terrain. Drainage course configuration would remain preserved as part of the MWMP, and no alteration of natural terrain would occur. However, vegetation removal, which is necessary to provide adequate ongoing water drainage and to reduce potential flooding, could have a localized effect on wildlife. Removal of sensitive or special-status plant species have been addressed in Section 5.3, Biological Resources, and mitigation has been provided therein. Although impacts would be reduced to less than significant, the necessary vegetation removal could potentially conflict with the objective of protecting the resource value of canyon areas and plant and animal wildlife within the community. Potential impacts to archeological and paleontological resources have been analyzed in Section 5.6, Historical and Cultural Resources, and Section 5.10, Paleontological Resources, respectively, and Environmental Protocols and mitigation measures have been provided therein. Impacts would be reduced to less than significant.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Design and Development Guidelines and the Tecolote Canyon Rim Development Guidelines in order to protect the natural resources and preserve community identity. • All public improvements such as roads, drainage channels and utility service and maintenance facilities should be developed in a manner that minimizes the visual and physical impacts of such improvements on the open space system. **Biological Resources** *Recommendations* • Preservation: in order to preserve the native flora and fauna, development should not be permitted in the open space areas. If development does occur on property with sensitive environmental areas, development should be clustered and located away from sensitive plant and animal habitats. • Revegetation: Disturbed areas should be revegetated with native plant species placed in appropriate soils in accordance with the mitigation requirements specified by a qualified biologist during the environmental review process. • Preservation of Trees: Significant native tree stands should be preserved as part of the protection of sensitive habitat areas.	No new development is proposed, and the MWMP has been designed to minimize visual and physical impacts on the open space system. Channels, ditches, basins, and other MWMP facilities are singular features in the landscape that, along with nearby land uses, development, and vegetation, contribute to the overall visual character of an area. The MWMP would include repair and maintenance activities that would be employed at these existing facilities. As stated above, no new facilities are proposed. The MWMP would not open up new areas for development such that the existing visual character of a particular area would be fundamentally altered, such as by introduction of new urban development in a rural area. The repair and maintenance activities described in Chapter 4, Project Description, consist of activities that are currently employed by the City to maintain existing facilities, ditches, basins, and outlet and inlet structures. As such, repair and maintenance activities would not result in long-term visual contrast or visual change that constitutes substantial alteration of existing visual character of an area or a "negative" aesthetic site. Typical vegetation (including invasive plant species) management activities would include grubbing, trimming, and/or removal of vegetation from channel/ditches, basins and small areas in front of structures. Although the visual effects of vegetation management may be noticeable to nearby receptors, these activities would be needed to reduce flood risk and restore conveyance capacities to as-built conditions. The growth, maintenance, die-back/die-off, and

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	regrowth of vegetation within channels/ditches and basins is a cyclical process that currently exists in these communities. As previously stated, no development would occur as part of the proposed MWMP; however, vegetation would be removed and mitigation would be provided. It should be noted that one of the objectives of the MWMP is to avoid, minimize, and/or mitigate significant adverse environmental effects resulting from routine maintenance of storm water facilities. Nonetheless, **the proposed MWMP would only be partially consistent with the goals and objectives of the Clairemont Mesa Community Plan**.
College Area Community Plan	
Public Facilities Element **Public Facilities Goal:** Maintain public utilities at a level, which conforms to citywide standards.	The MWMP has been prepared to maintain storm water infrastructure, protect life and property from flooding and environmental degradation, provide for timely and consistent routine maintenance, avoid or minimize significant environmental effects, and streamline the permitting process. All of which would conform to City-wide standards. **The MWMP would be consistent with this goal**.
Encanto Community Plan	
Open Space, Wetlands and Landform Preservation • *Policy P-CS-21:* Maintain best management practices in all development to limit erosion and siltation.	The MWMP would allow the City to efficiently and effectively obtain approvals for required flood protection and related beneficial drainage activities, thus providing the community with sufficient stormwater facilities.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
• *Policy P-CS-22:* Implement the recommendations contained in the Chollas Creek Enhancement Program such as emphasizing natural settings and encouraging wildlife, while restoring and enhancing wetland/riparian and upland transitional habitat with native soils and vegetation and removing concrete channels in Chollas Creek to create a more natural function and appearance, where feasible, and establishing trails and other passive recreation amenities. • *Policy P-CS-23:* Remove invasive species from Chollas Creek and restore habitat. **Urban Runoff Management** • *Policy P-CS-33*: Incorporate bioswales or other LID design practices where there are sufficient public rights-of-way throughout the community, and focus specific efforts to capture storm water along roadways in close proximity to Chollas Creek, such as Market Street, 47th Street and Euclid Avenue. Implement these features where appropriate, as they may be infeasible due to soil conditions and impacts to utilities. • *Policy P-CS-35*: Repair and maintain drainage outfalls and brow ditches that discharge directly to or are within open space lands.	The MWMP would not result in the loss of open space and would not alter San Diego's natural terrain. Drainage course configuration would remain preserved as part of the MWMP, and no alteration of natural terrain would occur. However, vegetation removal, which is necessary to provide adequate ongoing water drainage and to reduce potential flooding, could have a localized effect on wildlife. Removal of sensitive or special-status plant species have been addressed in Section 5.3, Biological Resources, and mitigation has been provided therein. Although impacts would be reduced to less than significant, the necessary vegetation removal could potentially conflict with the objective of protecting the resource value of canyon areas and plant and animal wildlife within the community. The MWMP would ensure that the City's storm water facilities are cleaned and maintained to provide adequate ongoing water drainage and to reduce potential flooding. The MWMP would protect public health and safety through the cleaning of storm water facilities and preventing future flooding, thus decreasing risk to life and property. The MWMP would include maintenance of facilities located within Chollas Creek and would not include construction of a new concrete-lined channel; however, concrete maintenance and repairs may be required. **The MWMP would be consistent with these policies**.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Flood Hazards • *Policy P-PF-21*: Protect property from flooding while retaining the natural appearance of drainage areas to the extent feasible. • *Policy P-PF-22*: Provide flood control in undeveloped portions of the drainage basin to ensure the safety of structures and active land uses upon development. • *Policy P-PF-23*: Accomplish flood control within the Chollas Creek waterway through the use of natural and/or landscaped facilities. Prohibit the use of concrete channels.	
Kearny Mesa Community Plan	
Conservation and Open Space Element **Conservation and Open Space Goal:** Preserve open and environmentally sensitive areas for the aesthetic, psychological, and recreational benefits they provide to the community. *Policies* • In order to conserve natural resources, prevent incompatible uses from locating a constrained land. • Sites designated as open space in this plan shall be preserved with non-building or negative open space easements determined on a case-by-case evaluation. *Recommendations* • Maintain the natural drainage system and minimize the use of impervious surfaces. Concentrations of runoff should be	The proposed MWMP would involve native and non-native vegetation removal, and mitigation measures would be provided to reduce these impacts to less than significant. Channels, ditches, basins, and other MWMP facilities are singular features in the landscape that, along with nearby land uses, development, and vegetation, contribute to the overall visual character of an area. The MWMP would include repair and maintenance activities that would be employed at these existing facilities. As stated above, no new facilities are proposed. The MWMP would not open up new areas for development such that the existing visual character of a particular area would be fundamentally altered, such as by introduction of new urban development in a rural area. The repair and maintenance activities described in Chapter 4, Project Description, consist of activities that

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
adequately controlled to prevent an increase in downstream erosion. Irrigation systems should be properly designed to avoid overwatering. • Retain native vegetation where possible. Graded slopes that are adjacent to natural hillsides and canyons should be revegetated with native or drought tolerant species to restore pre-development drainage conditions.	are currently employed by the City to maintain existing facilities, ditches, basins, and outlet and inlet structures. As such, repair and maintenance activities would not result in long-term visual contrast or visual change that constitutes substantial alteration of existing visual character of an area or a "negative" aesthetic site. Typical vegetation (including invasive plant species) management activities would include grubbing, trimming, and/or removal of vegetation from channel/ditches, basins and small areas in front of structures. Although the visual effects of vegetation management may be noticeable to nearby receptors, these activities would be needed to reduce flood risk and restore conveyance capacities to as-built conditions. The growth, maintenance, die-back/die-off, and regrowth of vegetation within channels/ditches and basins is a cyclical process that currently exists in these communities. The MWMP would ensure that the City's storm water facilities are cleaned and maintained to provide adequate ongoing water drainage and to reduce potential flooding. Drainage course configuration would remain preserved as part of the MWMP, and no alteration of natural terrain would occur. The MWMP would include pollution prevention and interception through the cleaning of storm water facilities. Potential long-term impacts to water quality may occur if MWMP activities would otherwise degrade water quality. The potential for

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	proposed MWMP maintenance to result in long-term degradation of water quality is reduced by the following approach: 1. The MWMP incorporates avoidance and minimization of impacts by using hydrology-based data to minimize maintenance to only those areas where maintenance provides a reduction in flood risk. This approach is also coordinated with the City's Watershed Master Plans and WQIPs to plan for integrated flood management and water quality improvements. 2. Where maintenance or repair activities results in unavoidable wetland impacts, the City would implement compensatory wetlands mitigation at established ratios (**MM-BIO-1a**). Wetlands mitigation would provide compensation for the loss of functions and values that may result from maintenance or repair activities. The established ratios account for the multiple functions that wetlands can support, including those associated with pollutant assimilative capacity losses and temporal loss (e.g., time between impact and establishment of functioning habitat). The established mitigation ratios are also sufficient to mitigate wetland area and function in typical development scenarios where wetlands are fully removed and constructed over (e.g., development over a previous wetland area and storm water is then conveyed in an underground piped system).

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	If mitigation is not constructed at the time of maintenance, there is a potential that mitigation may not be fully functioning within a 5-year timeframe. To provide a further offset to this potential impact, the City has developed a suite of additional water quality activities to provide offsetting water quality benefits in situations where wetlands mitigation has not been constructed at the time maintenance occurs. One of three equally suitable beneficial water quality activities listed in Section 5.12.9 would be implemented (**MM-WQ-1**). Items 1 or 2 would be implemented each fiscal year that maintenance occurs and Item 3 would be implemented once. No additional water quality activities would be required. Proposed maintenance activities would not result in a substantial increase in impervious surfaces or associated increased runoff. Watershed area and imperviousness are the main factors that determine the amount of surface runoff and flow rate. Facility maintenance activities would not increase impervious areas within the facilities or in other areas within the surrounding watersheds. One of the objectives of the MWMP is to avoid, minimize, and/or mitigate significant adverse environmental effects resulting from routine maintenance of storm water facilities. Nonetheless, **the proposed MWMP would only be partially consistent with the goals and objectives of the Kearny Mesa Community Plan**.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
La Jolla Community Plan and Local Coastal Program Land Use Plan	
Natural Resources and Open Space System • *Steep Hillsides D:* The City should protect natural vegetation, and habitat areas on steep slopes and natural drainage areas from impacts of new development on buildable portions of the lot.	The MWMP would improve current conditions by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment from storm water facilities. No new public facilities would be constructed, and the MWMP would not alter natural landforms. **The MWMP would be consistent with this goal**.
Mid-City: Normal Heights, Kensington–Talmadge, City Heights, and Eastern Area	
Natural and Cultural Resources Element **Biological Resources Goals** • Protect canyon, hillside, and creek-side natural wildlife habitats from urban encroachment and conflicting uses. • Improve and enhance riparian habitat in Chollas Creek (City Heights and Eastern Area). **Water Quality Goals** • Improve and enhance riparian habitat in Chollas Creek as a means of improving water quality. • Recommendation: Preserve sensitive slopes, canyons, floodways and other areas designated as open space through acquisition, zoning, resource regulation or other available methods.	The MWMP would ensure that storm water facilities are cleaned and maintained to provide ongoing adequate storm water drainage and to reduce potential flooding. The MWMP has been designed to minimize and avoid impacts to sensitive biological resources, such as wetlands and riparian habitats, and any impacts that would occur would be mitigated for. See Section 5.3, Biological Resources. The MWMP would improve current conditions by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment. The MWMP would include pollution prevention and interception through the cleaning of storm water facilities. As previously stated, the potential for proposed MWMP maintenance to result in long-term degradation of water quality is reduced by the following approach: 1. The MWMP incorporates avoidance and minimization of impacts by using hydrology-based data to minimize

Land Form – Canyons and Creeks Goals • Permanently link and preserve all canyons, slopes and floodways, designated as such in this plan as open space. • Develop passive recreational space in undeveloped canyons, where the natural integrity of the Canyon can be preserved. • Preserve sensitive hillside areas. • Preserve areas of native vegetation. • Preserve and enhance Chollas Creek as a linear open space system to provide passive recreational opportunities. **Parks and Open Space Goals** • Protect biological, visual, and topographic resources. Insure the preservation of an open space system through appropriate designation and protection. **Visual Resource Goals** • Preserve and enhance panoramic public views of the bay, open spaces, and mountains from street rights-of-way and other public areas. **Archaeological and Paleontological Resource Goals** • Preserve areas of Mid-City possessing significant archaeological and paleontological interest.	maintenance to only those areas where maintenance provides a reduction in flood risk. 2. Where maintenance or repair activities results in unavoidable wetland impacts, the City would implement compensatory wetlands mitigation at established ratios (**MM-BIO-1a**). If mitigation is not constructed at the time of maintenance, there is a potential that mitigation may not be fully functioning within a 5-year timeframe. To provide a further offset to this potential impact, the City has developed a suite of additional water quality activities to provide offsetting water quality benefits in situations where wetlands mitigation has not been constructed at the time maintenance occurs (**MM-WQ-1)**. No new public facilities would be constructed, and the MWMP would not alter natural landforms or have a significant impact on open space or passive recreational opportunities. Native and non-native vegetation would be removed from the storm water facilities under the MWMP. Removal of vegetation is required to prevent flooding and improve storm water flows through the facilities. Removal of vegetation, including sensitive or special-status plant species, have been addressed in Section 5.3, Biological Resources, and mitigation has been provided therein. Channels, ditches, basins, and other MWMP facilities are singular features in the landscape that, along with nearby land uses, development, and vegetation, contribute to the overall visual character of an area. The MWMP would include repair and maintenance activities that would be employed at these existing facilities. As stated above, no new facilities are proposed. The

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	MWMP would not open up new areas for development such that the existing visual character of a particular area would be fundamentally altered, such as by introduction of new urban development in a rural area. The repair and maintenance activities described in Chapter 4, Project Description, consist of activities that are currently employed by the City to maintain existing facilities, ditches, basins, and outlet and inlet structures. As such, repair and maintenance activities would not result in long-term visual contrast or visual change that constitutes substantial alteration of existing visual character of an area or a "negative" aesthetic site. Typical vegetation (including invasive plant species) management activities would include grubbing, trimming, and/or removal of vegetation from channel/ditches, basins and small areas in front of structures. Although the visual effects of vegetation management may be noticeable to nearby receptors, these activities would be needed to reduce flood risk and restore conveyance capacities to as-built conditions. The growth, maintenance, die-back/die-off, and regrowth of vegetation within channels/ditches and basins is a cyclical process that currently exists in these communities. In addition, the Mid-City Communities Plan does not identify in-channel vegetation or invasive species as particularly distinctive or of landmark status/quality. See Section 5.1, Aesthetics/Visual Effects and Neighborhood Character. Potential impacts to archaeological and paleontological resources have been analyzed in Section 5.6, Historical and Cultural

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	Resources, and Section 5.10, Paleontological Resources. As concluded in those sections, impacts would be reduced to less than significant with implementation of Environmental Protocols and mitigation measures. **Overall, the proposed MWMP is consistent with the goals in this community plan; however, the loss of vegetation has the potential to conflict with biological resource goals**.
Mira Mesa Community Plan	
Sensitive Resources and Open Space Element **Sensitive Resources and Open Space Goal**: A community-wide open space system that: • Preserves sensitive resources, including plant and animal habitats, and wildlife linkages. • Preserves natural drainage systems. • Provide linkages in the regional open space system of interconnected canyons and hillsides. *Open Space Preservation Policies* • Sensitive areas of community-wide and regional significance shall be preserved as open space. • Discretionary review (a PRD, PCD, or PID) shall be required for any proposed development in or adjacent to designated open space to ensure the application of the Policies and Proposals of this plan.	The MWMP would not result in the loss of open space and would not alter San Diego's natural terrain. Drainage course configuration would remain preserved as part of the MWMP, and no alteration of natural terrain would occur. However, vegetation removal, which is necessary to provide adequate ongoing water drainage and to reduce potential flooding, could have a localized effect on wildlife. Removal of sensitive or special-status plant species has been addressed in Section 5.3, Biological Resources, and mitigation has been provided therein. No new public facilities would be constructed, and the MWMP would not alter natural landforms or have a significant impact on open space or passive recreational opportunities. Native and non-native vegetation would be removed from the storm water facilities under the MWMP. Removal of vegetation is required to prevent flooding and improve storm water flows through the facilities. Removal of vegetation, including sensitive or special-status plant

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Wildlife Corridors Policies • Construction or improvements of roadways in sensitive habitat or designated wildlife corridors shall be designed to impact the least amount of sensitive area feasible. Bridges, elevated causeways or other mechanisms determined to be appropriate for the safe passage of wildlife by the Planning Director shall be used in place of culverts and fill to maintain wildlife crossings and open space connections. *Resource Management Policies* • No rare, threatened, endangered, or candidate species, species of concern, or those that qualify for Federal or State listing shall be disturbed without all necessary City, State and/or Federal permit approvals. • No filling, clearing, grubbing or other disturbance to biologically sensitive habitat shall be permitted without all necessary City, State and Federal permit approvals and completion of mitigation requirements. • No encroachments shall be permitted into wetlands, including vernal pools. Encroachment into native grasslands, coastal sage scrub, and maritime chaparral shall be consistent with the Resource Protection Ordinance. Purchase, creation, or enhancement of or replacement habitat area shall be required at ratios determined by the	species, has been addressed in Section 5.3, Biological Resources, and mitigation has been provided therein. No construction or improvements to roadways in sensitive habitat or designated wildlife corridors would occur as part of the MWMP. In compliance with all Resource Management policies, the City would obtain all necessary permits for the removal of biological resources within the scope of the MWMP. In addition, mitigation measures would be implemented to reduce potential impacts of biological resources. The MWMP would not include the planting of any invasive or exotic plant species within or adjacent to existing sensitive habitats. Native and non-native vegetation would be removed from the storm water facilities under the MWMP. Removal of vegetation is required to prevent flooding and improve storm water flows through the facilities. Maintenance activities would be designed to avoid or minimize impacts to sensitive biological resources, such as vernal pools, oak woodlands, coastal sage scrub, maritime chaparral and grassland, and to be consistent with the City's MSCP Subarea Plan. Removal of vegetation, including sensitive or special-status plant species, has been addressed in Section 5.3, Biological Resources, and mitigation has been provided therein.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Resources Protection Ordinance or State and Federal agencies, as appropriate. In areas of native vegetation that are connected to an open space system, the City shall require that as much native vegetation as possible be preserved as open space. • Sensitive habitat that is degraded or disturbed by development activity or other human impacts shall be restored or enhanced with the appropriate native plant community. This is critically important when the disturbed area is adjacent to other biologically sensitive habitats. Manufactured slopes and graded areas adjacent to sensitive habitat shall be revegetated with the appropriate native plant community, as much as is feasible considering the City's brush management regulations. • Exotic or invasive plant species shall not be planted within or adjacent to existing sensitive habitats. *Riparian Area Policies* • All other riparian areas [other than Los Peñasquitos Canyon Preserve] should be preserved in their natural state with a buffer of adjoining upland habitat having a minimum width of 100 feet. The buffer shall start at the outside edge of the defined riparian habitat, or at the outside edge of the 100-year flood FEMA plain, whichever is wider or outermost. • Development adjacent to riparian areas shall be designed to avoid erosion, sedimentation, and other potentially	The City would obtain all necessary permits and would perform mitigation defined in Section 5.3, Biological Resources, to reduce impacts to below a level of significance. The MWMP would comply with the Resource Protection Ordinance and U.S. Fish and Wildlife Service recommendations. The MWMP would improve current conditions by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment. The MWMP would include pollution prevention and interception through the cleaning of storm water facilities. As previously stated, the potential for proposed MWMP maintenance to result in long-term degradation of water quality is reduced by the following approach: 1. The MWMP incorporates avoidance and minimization of impacts by using hydrology-based data to minimize maintenance to only those areas where maintenance provides a reduction in flood risk. 2. Where maintenance or repair activities results in unavoidable wetland impacts, the City would implement compensatory wetlands mitigation at established ratios (**MM-BIO-1a**). If mitigation is not constructed at the time of maintenance, there is a potential that mitigation may not be fully functioning within a 5-

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
damaging impacts (such as pollution from urban run-off) which would degrade the quality of the resources in the area including wildlife habitat, vegetation, water quality or quantity, and visual quality. *Vernal Pool Policies* • The remaining vernal pool habitat in the community shall be protected from vehicular or other human-caused damage, encroachment in their watershed areas, and urban runoff. *Oak Woodlands Policies* • No loss of natural stands of oaks or oak woodland habitat shall be permitted, nor shall grading or other disturbance be permitted within the oak woodland habitat area. No changes shall be made to the watershed/drainage area of oak woodlands that could affect the surface or subsurface hydrology and no irrigation shall be permitted within 200 feet of the trunk of an oak tree. *Coastal Sage Scrub Policies* • Coastal sage scrub shall be protected from grading or impacts from development. Encroachment into this habitat type, or mitigation for any impacts upon it, shall comply	year timeframe. To provide a further offset to this potential impact, the City has developed a suite of additional water quality activities to provide offsetting water quality benefits in situations where wetlands mitigation has not been constructed at the time maintenance occurs. The MWMP would not preclude the linkage of canyons and hillsides for wildlife movement within the regional natural open space system. Furthermore, the MWMP would not interfere with the scenic, natural, or cultural resources within resource-based parks. Overall, **the proposed MWMP is consistent with the goals in this community plan, but the loss of vegetation has the potential to conflict with biological resource goals**.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
with the Resource Protection Ordinance and the U.S. Fish and Wildlife Service recommendations. If these overlap, the policy that requires the higher degree of protection will take precedence. *Carroll, Rattlesnake and Soledad Canyons* • Preserve (or restore if disturbed) riparian areas in Carroll and Rattlesnake Canyons to the full width of the flood plain. In order to foster conditions that allow for healthy ecological functioning and provide for adequate wildlife movement, upland habitat such as coastal sage scrub, grasslands, and maritime chaparral shall be preserved or restored adjacent to the riparian area wherever possible to provide a buffer with a minimum width of 100 feet. • Prevent and control run-off of fertilizers, pesticides, and other urban pollution into riparian and flood plain areas by using techniques such as storm water drainage basins and filtering systems and non-toxic, organic products in minimal amounts. • Restore wildlife connections between Soledad Canyon and Rose Canyon wherever possible. **Park and Recreation Facilities Element** **Park and Recreation Goal**: Preservation of areas notable for scenic, natural, or cultural attractions as resources-based parks.	

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Mission Valley Community Plan	
San Diego River • SDR-1: Follow all LDC, Chapter 14, Article 3, Division 1, Special Flood Hazard Areas; Chapter 14, Article 3, Division 1, Environmentally Sensitive Lands; and the San Diego River Park Master Plan requirements on all development within the River Corridor Area and the River Influence Area • SDR-5: Implement permanent best management practices, listed in the City's Storm Water Standards Manual, on all river area development. Incorporate both mandatory structural practices (swales, infiltration basin) and mandatory non-structural practices (restricted irrigation, aggressive street cleaning). **Development Adjacent to Open Space** • AOS-7: Follow the City's MHPA Land Use Adjacency Guidelines, which address indirect effects on the MHPA from adjacent development, on development adjacent to MHPA lands. Follow all Land Use Adjacency Guidelines, especially the guidance on grading and land development including drainage, toxic substances in runoff, lighting, barriers, invasive plant species, brush management, and noise.	The MWMP would improve current conditions by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment from storm water facilities. The MWMP would include pollution prevention and interception through the cleaning of storm water facilities. As previously stated, the potential for proposed MWMP maintenance to result in long-term degradation of water quality is reduced by the following approach: 1. The MWMP incorporates avoidance and minimization of impacts by using hydrology-based data to minimize maintenance to only those areas where maintenance provides a reduction in flood risk. 2. Where maintenance or repair activities results in unavoidable wetland impacts, the City would implement compensatory wetlands mitigation at established ratios (**MM-BIO-1a**). If mitigation is not constructed at the time of maintenance, there is a potential that mitigation may not be fully functioning within a 5-year timeframe. To provide a further offset to this potential impact, the City has developed a suite of additional water quality activities to provide offsetting water quality benefits in situations where wetlands mitigation has not been constructed at the time maintenance occurs (**MM-WQ-1**).

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Flooding and Sea Level Rise • FSR-1: Incorporate best management practices (BMPs), on development that address storm water runoff from the development area using the most current regulations established by the Regional Water Quality Control Board. • FSR-2: Conform development and redevelopment to current federal, state, and local flood proofing standards and siting criteria to prevent San Diego River flow obstruction.	In addition, because there are MWMP facility maintenance areas that occur within and adjacent to the MHPA, documented compliance with the MSCP Land Use Adjacency Guidelines is required (see also Environmental Protocols, above). Therefore, Table 5.8-2, Project Consistency Determination with MSCP Land Use Considerations, documents compliance with the MSCP. Also see **EP-LU-1**, which requires consistency with the MSCP/MHPA Land Use Adjacency Guidelines. Regarding flooding, the project-level maintenance activities under the MWMP include detailed hydrology and hydraulic analyses (Appendix I) used to evaluate comparisons of channel conveyance capacity, velocity, and resistance to erosive sheer stress to evaluate pre-maintenance and post-maintenance flood and erosion risk. The hydrology and hydraulic analysis results provide facility conveyance capacity based on baseline (current, pre-maintenance, or ultimate vegetated condition [i.e., future anticipated maximum vegetation and sediment accumulation]), and recommended maintenance conditions. The analysis includes site-specific evaluation of the potential for flooding prior to and after proposed maintenance (Table 5-1 in Appendix I). Modeled routine maintenance activities to remove accumulated sediment and manage vegetation tend to generally improve facility conveyance and minimize flooding potential by restoring the channel's capacity from current conditions to as-built conditions or maintenance baseline conditions. For evaluated MWMP facilities, the hydrology and

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	hydraulic analysis indicates that maintenance would either reduce the potential for flooding, or flood potential would remain the same within the channel and within upstream and downstream reaches within the domain of analysis described in Section 3.2 of Appendix I. Therefore, no significant impacts related to increased flooding potential are anticipated as a result of proposed MWMP activities. See Section 5.7, Hydrology, and Section 5.12, Water Quality. **The MWMP would be consistent with the goals and objectives of this community plan**.
Navajo Community Plan	
Other Community Facilities Element *Objective* • The community's objective is to assure that a high level of all public services is reached and maintained by adhering to standards set forth in the Progress Guide and General Plan as a minimum. *Proposal* • Design and implement flood control facilities to insure adequate protection for the community, while preserving the natural topography and minimizing the adverse environmental effects on the community. If channelization is necessary, the channels should be soft-bottomed and soft-sided, and should be designed of sufficient width to support riparian vegetation across the width of the channel.	The MWMP would allow the City to efficiently and effectively obtain approvals for required flood protection and related beneficial drainage activities, thus providing the community with flood risk reduction and protection. Although the MWMP maintenance activities would result in loss of vegetation, the MWMP would not result in the alteration of the natural topography. The MWMP would be consistent with this goal. The MWMP would improve current conditions by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment from storm water facilities. The MWMP would include pollution prevention and interception through the cleaning of storm water facilities. As previously stated, the potential for proposed MWMP maintenance to result in long-term degradation of water quality is reduced by the following approach:

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Community Environment Element *Objective* • To preserve and enhance the natural beauty and amenities of the Navajo community. • Establish and maintain an open space system to conserve natural resources, preserve scenic beauty, and define urban form. • Strengthen environmental pollution control measures. Support research into causes and prevention of environmental pollution. • Prevent deterioration of natural watershed areas.	1. The MWMP incorporates avoidance and minimization of impacts by using hydrology-based data to minimize maintenance to only those areas where maintenance provides a reduction in flood risk. 2. Where maintenance or repair activities results in unavoidable wetland impacts, the City would implement compensatory wetlands mitigation at established ratios (**MM-BIO-1a**). If mitigation is not constructed at the time of maintenance, there is a potential that mitigation may not be fully functioning within a 5-year timeframe. To provide a further offset to this potential impact, the City has developed a suite of additional water quality activities to provide offsetting water quality benefits in situations where wetlands mitigation has not been constructed at the time maintenance occurs (**MM-WQ-1**). See Section 5.7, Hydrology, and Section 5.12, Water Quality. No new channels or any other storm water facilities would be constructed or expanded as part of the proposed MWMP. **The proposed MWMP would be consistent with these goals and objectives**.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Otay Mesa Community Plan	
Land Use Element **Land Use Element Goal***:* To assure standard public facilities and services commensurate with development of the planning area. *Open Space* • These open spaces should be initially maintained in their natural state and future uses should be compatible with the open space concept. Examples of these uses are: hiking, horseback riding, bicycling, sightseeing, wildlife and fossil study. Studies should be undertaken to determine if activities which may require minor alterations of the natural open space should be allowed. Examples of these are: picnicking, camping, golf, archery, botanical gardens (natural and man-made), food cultivation, and ornamental landscaping. *Historic Heritage* • To recognize the importance of cultural resources and to mitigate potential adverse impacts upon them. *Proposals* • Preservation is usually preferable to salvage for the mitigation of impacts to archaeological resources by a	The MWMP would not result in the loss of open space and would not alter San Diego's natural terrain. Drainage course configuration would remain preserved as part of the MWMP. The MWMP has the potential to impact historical and archaeological resources during maintenance and repair activities. However, mitigation measures would be implemented with the MWMP that would reduce the potential impacts to historical and archaeological resources to less than significant. The MWMP would be consistent with this goal. **The proposed MWMP would be consistent with these goals and objectives**.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
project, because it permits study of the resources with methods and techniques not yet developed, and to answer questions which are yet to be raised. • All field work, reports, recordation and curation of archaeological and historical resources should be, as a minimum, in accordance with current standards in the City and County for such work, and under the supervision of qualified professionals.	
Otay Mesa-Nestor Community Plan and LCP Land Use Plan	
• *Zoning Guideline*: Prohibit further channelization, undergrounding, or piping of Nestor Creek within the designated Greenway unless absolutely necessary for health or safety reasons. If channelization is needed, require a natural earthen channel	The MWMP does not include channelization, undergrounding, or piping of Nestor Creek. However, the MWMP does propose maintenance of existing channels in Nestor Creek. **The MWMP would be consistent with this goal**.
Pacific Beach Community Plan and LCP Land Use Plan	
Parks and Open Space Element: *Parks and Open Space Policy* • The City shall maintain and improve, as needed, facilities at existing parks, beaches and bay-areas. *Resource Protection Policy* • Any public improvement projects adjacent to or within designated open space areas shall be reviewed by the Planning Department through the City Projects Review Task Force for potential environmental impacts and conformance with the policies and proposals of this plan.	No new public improvements or utility infrastructure is planned as part of the MWMP. **The MWMP is consistent with these policies**.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
• Placement of new utility infrastructure shall avoid open space areas serving habitat preserves or conservation. Facilities shall avoid all sensitive habitats, plants, and animals when being located in any open space area and be absolutely excluded from open-space sites serving as mitigation and/or serving habitat preservation and conservation purposes. Other open space areas allowing public access and activity would be available for infrastructure with appropriate mitigation. The City shall work with public utilities to ensure their sensitivity to environmental considerations before granting permits for new facilities.	
Peninsula Community Plan and LCP Land Use Plan	
Community Facilities Element *Objective* • To maintain public works facilities which will provide a high level of service to the existing and future population of the Peninsula Community. *Recommendation* • The public works infrastructure should be continuously monitored to assure that a high level of service is maintained.	The MWMP would ensure that storm water facilities are cleaned and maintained to provide ongoing adequate storm water drainage and to reduce potential flooding. The MWMP has been designed to minimize and avoid impacts to sensitive biological resources, such as wetlands and riparian habitats, and any impacts that would occur would be mitigated for. The MWMP would improve current conditions by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment from storm water facilities. The MWMP would include pollution prevention and interception through the cleaning of storm water facilities. As previously stated, the potential for proposed MWMP maintenance

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Conservation and Environmental Quality Element *Recommendations* • The Famosa Slough should be recognized as a sensitive habitat area and, as such, it should be protected, preserved and enhanced through designation as open space and dedication as a park, in addition to establishing appropriate development guidelines. • Guidelines and restrictions for development adjacent to the Famosa Slough should be prepared to prevent direct or indirect encroachment into this area. Development of vacant lots adjacent to the Slough should be maintained as view corridors and physical access points. **Cultural and Heritage Resources Element** *Objective* • Archaeological and historical resources in the Peninsula Community which have been designated by appropriate authorities as being significant and worthy of preservation should be protected and enhanced. *Recommendations* • All significant historical, archaeological and paleontological resources of the community which have been designated by the City Historical Site Board should be preserved.	to result in long-term degradation of water quality is reduced by the following approach: 1. The MWMP incorporates avoidance and minimization of impacts by using hydrology-based data to minimize maintenance to only those areas where maintenance provides a reduction in flood risk. 2. Where maintenance or repair activities results in unavoidable wetland impacts, the City would implement compensatory wetlands mitigation at established ratios (**MM-BIO-1a**). If mitigation is not constructed at the time of maintenance, there is a potential that mitigation may not be fully functioning within a 5-year timeframe. To provide a further offset to this potential impact, the City has developed a suite of additional water quality activities to provide offsetting water quality benefits in situations where wetlands mitigation has not been constructed at the time maintenance occurs (**MM-WQ-1**). See Section 5.7, Hydrology, and Section 5.12, Water Quality. The MWMP has the potential to impact historical and archaeological resources during maintenance and repair activities. However, mitigation measures would be implemented with the MWMP that would reduce the potential impacts to historical and archaeological resources to less than significant. The MWMP would be consistent with this goal.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
• Projects located within or adjacent to an historical, archaeological or paleontological site should be evaluated in terms of their impact upon and/or compatibility with the resource. An Environmental Impact Report may be required for such projects, addressing in detail the nature of the resource, potential impacts and proposed mitigation measures. A person qualified in analyzing the resources should prepare the report. Such resources should be preserved in a manner which would not degrade the resource or impair its educational value. To the extent feasible, the resource should be preserved on site in its present or original use, or an adaptive use which enhance the community's character and historical heritage should be sought.	**The proposed MWMP is consistent with the goals and objectives in the Peninsula Community Plan**.
Rancho Bernardo Community Plan	
Community Facilities Element • *Flood Control Proposal*: The northwestern and southern drainage areas should be served by courses and channels within open space areas and minor drainage structures. Other development areas will only be affected by local drainage which can be accommodated by minor facilities. Where open space areas are used for drainage, the drainage channel and/or flow area should be maintained free of obstructions which would restrict the design flow of these channels.	The MWMP would improve current conditions by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment from storm water facilities. The MWMP would include pollution prevention and interception through the cleaning of storm water facilities. As previously stated, the potential for proposed MWMP maintenance to result in long-term degradation of water quality is reduced by the following approach: 1. The MWMP incorporates avoidance and minimization of impacts by using hydrology-based data to minimize maintenance to only those areas where maintenance provides a reduction in flood risk.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	2. Where maintenance or repair activities results in unavoidable wetland impacts, the City would implement compensatory wetlands mitigation at established ratios (**MM-BIO-1a**). If mitigation is not constructed at the time of maintenance, there is a potential that mitigation may not be fully functioning within a 5-year timeframe. To provide a further offset to this potential impact, the City has developed a suite of additional water quality activities to provide offsetting water quality benefits in situations where wetlands mitigation has not been constructed at the time maintenance occurs (**MM-WQ-1**). See Section 5.7, Hydrology, and Section 5.12, Water Quality. **The proposed MWMP is consistent with this goal**.
Rancho Peñasquitos Community Plan	
Community Appearance and Design Element **Community Appearance and Design Goal:** Ensure a pleasant, healthful, physical and social environment for Rancho Penasquitos residents by balancing development with the preservation of the community's natural resources and amenities. *Policies* • All new development should be sensitive to the environment and be designed to avoid incremental contributions to the	The MWMP would allow the City to efficiently and effectively obtain approvals for required flood protection and related beneficial drainage activities, thus providing the community with flood risk reduction and protection. Although the MWMP maintenance activities would result in loss of vegetation, the MWMP would not result in the alteration of the natural topography, or result in hillside cutting or slope instability. The MWMP would be consistent with this goal. The MWMP would improve current conditions by removing illegally dumped materials such as trash, appliances, furniture, shopping

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
problems of air and water pollution, natural fire hazards, soil erosion, siltation, slope instability, flooding and severe hillside cutting and scarring. • Preserve significant natural features and canyons as viable connected open space systems. • Protect environmental resources that are typically associated with hillsides, preserve significant public views of and from hillsides, and maintain a clear sense of natural hillside topography throughout the Rancho Peñasquitos Community.	carts, and tires, as well as debris and sediment from storm water facilities. The MWMP would include pollution prevention and interception through the cleaning of storm water facilities. **The proposed MWMP would be consistent with this goal**.
San Ysidro Community Plan and LCP Land Use Plan	
Community Facilities and Services Element **Community Facilities and Services Goal**: Provide a full and balanced range of employment opportunities, medical facilities, public utilities, and educational, social, and recreational facilities and services. *Objective* • Ensure the maintenance and periodic upgrading of public utilities services. **Cultural and Historical Resources Element** **Cultural and Historical Resources Goal:** Recognize, preserve and rehabilitate historical or significant buildings, districts,	The proposed MWMP is being prepared to efficiently and effectively maintain existing storm water facilities to improve flows and reduce the risk of flooding. The MWMP has the potential to impact historical, archaeological, and paleontological resources during maintenance and repair activities. However, Environmental Protocols and mitigation measures would be implemented with the MWMP that would reduce the potential impacts to historical, archaeological, and paleontological resources to less than significant. **The MWMP would be consistent with these goals and objectives**.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
landscaping, archaeological and paleontological sites and urban environments. *Objective* • Preserve historic structures on site and in their historic context whenever possible. • Preserve paleontological resources. *Recommendation* • Evaluate projects located within or adjacent to a historic, archaeological or paleontological site in terms of their impact upon and/or compatibility with the resource. Preserve such resources in a manner which would not degrade the resource or impair its educational value.	
Skyline-Paradise Hills Community Plan	
Open Space Element **Open Space Goal:** Provide an open space system which preserves existing canyons and hillsides and ensures open space accessibility. *Objectives* • Develop specified open space areas for passive recreational uses such as hiking or bike trails. • Preserve visual and physical access to open space areas from public rights-of-way to increase passive recreational use.	The proposed MWMP would not impact existing canyons or hillsides or prevent access to open space systems. The proposed MWMP does not include new development within open space systems, nor would it impact passive recreational uses. The MWMP has the potential to impact historical, archaeological, and paleontological resources during maintenance and repair activities. However, Environmental Protocols and mitigation measures would be implemented with the MWMP that would reduce the potential impacts to historical, archaeological, and paleontological resources to less than significant.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Recommendations • The community's linear open space parks, although not part of a larger open space system, are a unique resource in this community as they provide a pedestrian linkage system to public facilities and, therefore, should continue to be maintained as open space. • Any development adjacent to open space areas should be designed in accordance with the guidelines outlined in the Urban Design Element of this plan. • All slopes which meet the criteria of the Hillside Review (HR) Overlay Zone should be zoned HR and should be developed in accordance with the guidelines for Hillside and Slope Development contained in the Urban Design Element of this Plan. **Cultural and Historical Resources Element** **Cultural and Historical Resources Goal:** Preserve the cultural and historical resources of the Skyline- Paradise Hills community. *Objectives* • Protect the resource value of archaeological artifacts and paleontological resources within the community. • Preserve buildings of architectural and historical interest in the community. *Recommendation*	The MWMP would ensure that storm water facilities are cleaned and maintained to provide ongoing adequate storm water drainage and to reduce potential flooding. **The MWMP would be consistent with these goals and objectives**.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
• Developments that might impact archaeological or paleontological sites should be identified during the permit process. These impacts should be mitigated through the environmental review process. **Public Facilities Element** **Public Facilities Element Goal:** Establish and maintain a high level of public facilities and services to meet community needs.	
Southeastern San Diego Community Plan	
Open Space and Recreation Element *Objective* • Preserve hillsides, canyons and drainage areas in their natural state to the extent possible. *Recommendations* • Public Views. Care should be taken to maintain and enhance views to designated open space areas from public rights-of-way. These views should be considered in the review of discretionary permits. • Creeks. Preserve creeks and drainage areas in their natural state. The Chollas Creek system is an important linear open area resource. All creeks in the community should be made available for passive recreation where safe.	The proposed MWMP would not result in the alteration or realignment of any storm water facility. No new public facilities would be constructed, and the MWMP would not alter natural landforms or have a significant impact on open space or passive recreational opportunities. Drainage course configuration would remain preserved as part of the MWMP, and no alteration of natural terrain would occur. Native and non-native vegetation would be removed from the storm water facilities under the MWMP. Removal of vegetation is required to prevent flooding and improve storm water flows through the facilities. Removal of vegetation, including sensitive or special-status plant species, has been addressed in Section 5.3, Biological Resources, and mitigation has been provided therein. Minor maintenance activities may occur throughout the City but would not affect ESL (as defined by the City's LDC) or result in a

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Public Facilities Element *Objective* • Protect property from flooding while retaining the natural appearance of drainage areas to the extent feasible. *Recommendations* • In undeveloped portions of the drainage basin, flood control should be provided which ensures the safety of structures and active land uses upon development. • Flood control in the Chollas system should be accomplished through the use of natural and/or landscaped facilities. The use of concrete channels shall not be permitted. • Repair and maintain drainage outfalls and brow ditches that discharge directly to or are within open space lands. **Neighborhood Element** *Objectives* Encanto: • Preserve the natural canyons and slopes of Encanto. Lincoln Park: • Retain the hills and canyons of the neighborhood. South Encanto: • Preserve and protect the natural canyons and slopes of South Encanto.	regulated impact to resources under the jurisdiction of the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, Regional Water Quality Control Board, or California Coastal Commission. These activities may include maintenance of specific structures such as storm water pipes, inlet structures, brow ditches, and permanent best management practices within the public right-of-way or developed areas. A variety of other activities may also be considered minor maintenance, including, but not limited to, trash and debris removal by hand, homeless encampment clearing, graffiti removal, vegetation management, sediment removal, erosion control maintenance, and infrastructure repair. The MWMP has been designed to minimize visual and physical impacts on the open space system. Channels, ditches, basins, and other MWMP facilities are singular features in the landscape that, along with nearby land uses, development, and vegetation, contribute to the overall visual character of an area. The MWMP would include repair and maintenance activities that would be employed at these existing facilities. As stated above, no new facilities are proposed. The MWMP would not open up new areas for development such that the existing visual character of a particular area would be fundamentally altered, such as by introduction of new urban development in a rural area. The repair and maintenance activities described in Chapter 4, Project Description, consist of activities that are currently employed by the City to maintain existing facilities, ditches, basins, and outlet and inlet structures. As such, repair and maintenance activities would

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Valencia Park: • Valencia Canyon is an attractive natural canyon and should be preserved for future generations.	not result in long-term visual contrast or visual change that constitutes substantial alteration of existing visual character of an area or a "negative" aesthetic site. Typical vegetation (including invasive plant species) management activities would include grubbing, trimming, and/or removal of vegetation from channel/ditches, basins and small areas in front of structures. Although the visual effects of vegetation management may be noticeable to nearby receptors, these activities would be needed to reduce flood risk and restore conveyance capacities to as-built conditions. The growth, maintenance, die-back/die-off, and regrowth of vegetation within channels/ditches and basins is a cyclical process that currently exists in these communities. See Section 5.1, Aesthetics/Visual Effects and Neighborhood Character. The proposed MWMP would ensure that storm water facilities are cleaned and maintained to provide ongoing adequate storm water drainage and to reduce potential flooding. **The MWMP would be consistent with these goals and objectives**.
Tijuana River Valley LCP Land Use Plan	
• ***Overall Goal*:** To provide flood protection commensurate with economic cost benefits for urbanized portions of south San Diego and Tijuana, Mexico, and to provide benefits to satisfy the International Treaty with Mexico.	The MWMP would provide maintenance of storm water facilities and would protect public health and safety through the cleaning of storm water facilities and reduce the potential for future flooding, thus decreasing risk to life and property. Drainage course

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
• *Local Coastal Program Land Use Plan Recommendations; Flood Control*: No berming, channelization, or man-made constraints or barriers to creek, tributary, or river flows should be allowed in any floodplain within the MHPA unless reviewed by all appropriate agencies, and adequately mitigated. • *Local Coastal Program Land Use Plan Recommendations; Flood Control*: No riprap, concrete, or other unnatural material shall be used to stabilize river, creek, tributary, and channel banks within the MHPA. River, stream, and channel banks shall be natural, and stabilized where necessary with willows and other appropriate native plantings. Rock gabions may be used where necessary to dissipate flows and should incorporate design features to ensure wildlife movement.	configuration would remain preserved as part of the MWMP, and no alteration of natural terrain would occur. Minor and/or major concrete repair activities may be required within the MHPA to repair or replace existing concrete lining or riprap to match its original as-built condition. However, no additional berming, channelization, or constructed constraints or barriers to creeks, tributaries, or river flows are proposed within land designated MHPA in the Tijuana River Valley Community Plan area. The MWMP would maintain and repair existing storm water facilities and would not construct new facilities within the MHPA. **The MWMP would be consistent with these goals**.
Torrey Pines Community Plan and LCP Land Use Plan	
Key Policy • Public projects (utilities, roads, railroads, etc.) that cross or encroach into open space areas shall eliminate or avoid loss to biological resources, shall result in no net loss to wetlands, and shall be required to contribute to the restoration and enhancement of those open space areas.	Native and non-native vegetation would be removed from the storm water facilities under the MWMP. Removal of vegetation is required to prevent flooding and improve storm water flows through the facilities. Removal of vegetation, including sensitive or special-status plant species, has been addressed in Section 5.3, Biological Resources, and mitigation has been provided therein. Vegetation removal could also have a localized effect on wildlife, which has also been addressed in Section 5.3. The MWMP has the potential to impact historical, archaeological, and paleontological resources during maintenance and concrete

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Resource Management and Open Space Element **Resource Management and Open Space Goals***:* • Ensure long term sustainability of the unique ecosystem in the Torrey Pines Community, including all soil, water, air, and biological components which interact to form healthy functioning ecosystems. • Conserve, restore, and enhance plant communities and wildlife habitat, especially habitat for rare, threatened, and endangered species. • Retain viable, connected systems of wildlife habitat, and maintain these areas in their natural state. • Identify, inventory and preserve the unique paleontological, archaeological, Native American, and historical resources of Torrey Pines for their educational, cultural, and scientific values. • Preserve, enhance, and restore all-natural open space and sensitive resource areas, including Los Peñasquitos Lagoon and associated uplands, Torrey Pines State Park and Reserve Extension areas with its distinctive sandstone bluffs and red rock, Crest Canyon, San Dieguito Lagoon and River Valley, Carroll Canyon Wetland/Wildlife Corridor through Sorrento Valley, and all selected corridors providing linkage between these areas.	repair activities. However, Environmental Protocols and mitigation measures would be implemented with the MWMP, which would reduce the potential impacts to historical, archaeological, and paleontological resources to less than significant. The MWMP has been designed to minimize and avoid impacts to sensitive biological resources, such as wetlands and riparian habitats, and any impacts that would occur would be mitigated for. The MWMP would improve current conditions by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment from storm water facilities. The MWMP would include pollution prevention and interception through the cleaning of storm water facilities. As previously stated, the potential for proposed MWMP maintenance to result in long-term degradation of water quality is reduced by the following approach: 1. The MWMP incorporates avoidance and minimization of impacts by using hydrology-based data to minimize maintenance to only those areas where maintenance provides a reduction in flood risk. 2. Where maintenance or repair activities results in unavoidable wetland impacts, the City would implement compensatory wetlands mitigation at established ratios (**MM-BIO-1a**).

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Policies • Development impacts to rare, threatened, endangered, or candidate species shall be minimized or eliminated. • No filling, clearing, grubbing, or other disturbance of biologically sensitive habitats shall be permitted without approved mitigation plans. • New development adjacent to and impacting biologically sensitive areas shall be responsible for the restoration and enhancement of that area. In particular, when mitigation areas are needed for public projects, the disturbed areas in Crest Canyon should be revegetated with coastal mixed chaparral and Torrey pines. • Riparian vegetation in channels through the Sorrento Valley industrial area shall be preserved in its natural state in order to maintain its vital wildlife habitat value. When vegetation removal is necessary for flood control, the required State and Federal permits shall be obtained. • Preserve and enhance all open space and wildlife corridors (see Figure 6 of the Community Plan), especially those linking the Los Peñasquitos Lagoon with Torrey Pines State Reserve Extension and the Carroll Canyon Creek corridor. • New development, both public and private, should incorporate site planning and design features which would avoid or mitigate impacts to cultural resources. When sufficient plan flexibility does not permit avoiding construction on cultural resource sites, mitigation shall be designed in accordance with guidelines of the State Office of	If mitigation is not constructed at the time of maintenance, there is a potential that mitigation may not be fully functioning within a 5-year timeframe. To provide a further offset to this potential impact, the City has developed a suite of additional water quality activities to provide offsetting water quality benefits in situations where wetlands mitigation has not been constructed at the time maintenance occurs (**MM-WQ-1**). See Section 5.7, Hydrology, and Section 5.12, Water Quality. Additionally, no new impermeable surface area would be created as part of the MWMP. Previously existing impermeable areas may be repaired to as-built conditions, but no net new impermeable surfaces are proposed. The state and federal permits required to remove to riparian habitat from storm water facilities would be obtained prior to the start of maintenance activities. **The MWMP would be consistent with these goals and policies**.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Historic Preservation and the State of California Native American Heritage Commission. • Conditions of approval for all development impacts adjacent to open space areas should include restoration and enhancement measures for that particular area.	
Uptown Community Plan	
Community Facilities and Services Element C**ommunity Facilities and Services Goal**: Establish and maintain a high level of community facilities and services to meet the needs of the community.	The MWMP would provide maintenance of storm water facilities and would protect public health and safety through the cleaning of storm water facilities and preventing future flooding, thus decreasing risk to life and property. Drainage course configuration would remain preserved as part of the MWMP, and no alteration of natural terrain would occur. **The MWMP would be consistent with this goal**.
Park Plans	
Balboa Park Master Plan	
No applicable goals or policies.	Not applicable.
Famosa Slough Enhancement Plan	
Overall Goal: To restore and preserve the Slough and channel as a natural habitat, to provide sanctuary for wildlife, and to educate the public in the appreciation of plants and animals that comprise a wetland system. *Biological Objectives*	Due to the nature of the MWMP, impacts to wetlands would be unavoidable; however, all impacts to wetlands would be mitigated for to below a level of significance. Modeled routine maintenance activities to remove accumulated sediment and manage vegetation tend to generally improve facility conveyance and minimize flooding potential by restoring the channel's capacity from current conditions to as-built conditions or maintenance baseline conditions (see Section 5.7, Hydrology).

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
• Provide a self-sustaining ecosystem and conduct monitoring and regular maintenance programs to ensure long-term viability of the Famosa Slough system. • Facilitate growth of wetland habitat (salt and brackish marsh), especially around Famosa Slough edges, and where possible, convert degraded habitats into additional salt marsh wetlands. • Control contaminants entering Famosa Slough by controlling urban runoff and associated sediment flows. • Plant and encourage native upland habitat in appropriate areas and curtail growth and expansion of exotic plants. • Maintain the existing species diversity and encourage the attraction of as many naturally occurring species as can be sustained by the system.	The site-specific WPCP would identify facility-specific plans for BMPs and pollution prevention measures that would be implemented. Potential impacts during maintenance activities would be addressed by water quality protection BMPs identified in the site-specific WPCP prepared for each facility. Example water quality BMPs include erosion control, sediment control, run-on and site storm water management, non-storm-water management, materials and waste management, particulate and dust control, and final stabilization. The MWMP would improve current conditions by removing illegally dumped materials, such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment from storm water facilities.
Social Objectives • Develop methodologies for the prevention and/or correction of possible health hazards, attractive nuisances, and illegal dumping. • Address the maximum number of public concerns and comments received through public workshops or other input mechanisms. • All improvements should be designed to minimize costly maintenance or patrol requirements, if possible.	**The MWMP would be consistent with these goals and objectives**.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
Mission Bay Park Master Plan	
Environmental Element **Environmental Goal:** A park in which achieving the highest possible water quality is a planning, design, and management priority. *Policy* • A park in which water quality is protected by upgraded sewer mains and storm drains in surrounding areas and by a complete interceptor system to eliminate surface contaminants from entering the Bay.	The MWMP would improve current conditions by removing illegally dumped materials such as trash, appliances, furniture, shopping carts, and tires, as well as debris and sediment from storm water facilities. The MWMP would include pollution prevention and interception through the cleaning of storm water facilities. As previously stated, the potential for proposed MWMP maintenance to result in long-term degradation of water quality is reduced by the following approach: 1. The MWMP incorporates avoidance and minimization of impacts by using hydrology-based data to minimize maintenance to only those areas where maintenance provides a reduction in flood risk. 2. Where maintenance or repair activities results in unavoidable wetland impacts, the City would implement compensatory wetlands mitigation at established ratios (**MM-BIO-1a**). If mitigation is not constructed at the time of maintenance, there is a potential that mitigation may not be fully functioning within a 5-year timeframe. To provide a further offset to this potential impact, the City has developed a suite of additional water quality activities to provide offsetting water quality benefits in situations where wetlands mitigation has not been constructed at the time maintenance occurs (**MM-WQ-1**). See Section 5.7, Hydrology, and Section 5.12, Water Quality.

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	The proposed MWMP would be consistent with this goal.
Los Peñasquitos Preserve Master Plan	
No applicable goals or policies.	Not applicable.
Mission Trails Regional Park Master Plan	
Management Recommendations Lake Murray (LM)-M6: Continue to maintain the urban runoff diversion channel around the lake and look for opportunities to improve the water quality within the channel before it is discharged downstream of the dam. **Habitat and Species Recommendations** LM-HI: Protect the sensitive plants in the natural area between the paved maintenance road and the dirt access road along the urban runoff diversion channel.	There would be no impact to concrete-lined facilities as a result of changes in flow velocities or drainage patterns in a manner that would result in substantial increased erosion. However, alteration of existing drainage patterns within concrete-lined facilities may result in increased erosion if upstream or downstream facilities are earthen-bottom. In addition, increased flow velocities in earthen-bottom facilities could result in on-site and off-site erosion. However, with implementation of **EP-HYD-1**, potentially significant long-term erosion-related impacts to earthen-bottom facilities would be reduced to less than significant. The MWMP would not result in the loss of open space and would not alter San Diego's natural terrain. Drainage course configuration would remain preserved as part of the MWMP, and no alteration of natural terrain would occur. No new development is proposed, and the MWMP has been designed to minimize visual and physical impacts on the open space system. The site-specific WPCP would identify facility-specific plans for BMPs and pollution prevention measures that would be implemented. Potential impacts during maintenance activities would be addressed by water quality protection BMPs identified in the site-

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	specific WPCP prepared for each facility. Example water quality BMPs include erosion control, sediment control, run-on and site storm water management, non-storm-water management, materials and waste management, particulate and dust control, and final stabilization. **The proposed MWMP would be consistent with these recommendations.**
San Diego River Park Master Plan	
Goal 1: Restore and Maintain a Healthy River System *Recommendations* B. Remove/circumvent obstacles that impede flow C. Remove invasive vegetation species D. Encourage growth of appropriate native riparian and upland vegetation. G. Adopt programs to reduce/remove non-point source loads and including litter and solid waste. H. Future development projects should incorporate hydrology and water quality considerations in all planning and guidance documents and monitor water quality following implementation of the projects.	The proposed MWMP would not include any facilities within the San Diego River; however, some facilities proposed for maintenance feed into the river. Maintenance activities would include the removal of trash, debris (e.g., tires, appliances, car parts), vegetation, and sediment, which would improve flows within the channels that eventually reach the San Diego River. Modeled routine maintenance activities to remove accumulated sediment and manage vegetation tend to generally improve facility conveyance and minimize flooding potential by restoring the channel's capacity from current conditions to as-built conditions or maintenance baseline conditions (see Section 5.7, Hydrology). The site-specific WPCP would identify facility-specific plans for BMPs and pollution prevention measures that would be implemented. Potential impacts during maintenance activities would be addressed by water quality protection BMPs identified in the site-specific WPCP prepared for each facility. Example water quality BMPs include erosion control, sediment control, run-on and site

Table 5.8-1
General, Community, and Park Plan Policy Evaluation

Applicable Goals, Policies, Recommendations	Evaluation
	storm water management, non-storm-water management, materials and waste management, particulate and dust control, and final stabilization. **The proposed MWMP would be consistent with this goal and recommendations**.

Issue 2: Would the project require a deviation or variance, and the deviation or variance would in turn result in a physical impact on the environment?

Project-Level Analysis (FMPs)

City of San Diego Municipal Code and Land Development Code

Environmentally Sensitive Lands Regulations

The proposed MWMP involves the maintenance of storm water facilities; specifically open channels, detention basins, and drain structures that the City Transportation & Storm Water Department (TSW) has the responsibility to maintain and repair. These activities would generally comply with the City's ESL Regulations, specifically the Development Regulations for Sensitive Biological Resources (LDC Section 143.0141) and Development Regulations for Special Flood Hazard Area (LDC Section 143.0145). However, proposed maintenance activities could require the removal of wetland vegetation and would be necessary to restore or repair the facility's conveyance capacities or as-built condition. Therefore, implementation of the MWMP could require a deviation from the City's ESL Regulations due to encroachment into biological resources that the regulations aim to protect.

The City's ESL Wetland Regulations, LDC Section 143.0141(b)(5), states: "Impacts to wetlands shall be avoided, except where permitted in accordance with Section 143.0141(b)(6). A wetland buffer shall be maintained around all wetlands as appropriate to protect the functions and values of the wetlands. In the Coastal Overlay Zone the applicant shall provide a minimum 100-foot buffer, unless a lesser or greater buffer is warranted as determined through the process described in this section" (City of San Diego 2018a). As a reference, LDC Section 143.0141(b)(6) specifically pertains to encroachments into vernal pools outside the Coastal Overlay and MHPA, which is allowed without a deviation, but not likely to occur under the MWMP.

Since maintenance and repair activities within storm water drainage facilities would be located within ESL and likely impact wetlands, a deviation from the City's ESL Regulations (Section 143.0141(b)(5) would be required. Therefore, MWMP activities could have a **potentially significant** land use impact (**LU-1**) related to biological resources since unavoidable impacts to wetlands and any buffers within and outside the Coastal Overlay Zone would be considered a physical impact on the environment.

However, as discussed further in Section 5.3, Biological Resource, of this EIR, all wetland impacts would be mitigated to below a level of significance since avoidance of impacts to wetlands is not feasible due to the nature of the MWMP activities. Analysis of certain facilities indicates that vegetation must be removed to prevent flooding and improve the overall intended functionality of these storm water facilities since vegetation diminishes the ability of the storm water facilities to

safely convey floodwaters. Therefore, where wetland impacts are unavoidable (determined on a case-by-case basis), they would be minimized to the maximum extent practicable and fully mitigated per the SDBG.

In addition, significant indirect impacts to breeding birds protected by the City's ESL Regulations may occur if maintenance produces noise or other types of disturbance in proximity to active nests, potentially resulting in abandonment of nests or other breeding failure. Per LDC Section 143.0141 (a)(2), grading during wildlife breeding season shall be consistent with the requirements of the MSCP Subarea Plan. The SDBG (City of San Diego 2018a) also require active nest buffers and breeding season dates for covered species, including raptors. Maintenance-related noise has the potential to indirectly impact breeding wildlife, including the state and federally endangered least Bell's vireo (*Vireo bellii pusillus*), California least tern (*Sterna antillarum browni*), Ridgway's rail (*Rallus obsoletus*), and southwestern willow flycatcher (*Empidonax traillii extimus*); the federally threatened coastal California gnatcatcher (*Polioptila californica californica*); and the MSCP covered species Cooper's hawk (*Accipiter cooperii*), yellow warbler (*Setophaga petechia*), yellow-breasted chat (*Icteria virens*), and other avian species if maintenance occurs during their breeding seasons. Whenever possible, maintenance activities under the MWMP would be conducted outside of the breeding season for sensitive wildlife species. If maintenance is required to be conducted during the breeding season of sensitive wildlife, and suitable habitat is present within or adjacent to the facility segment planned for maintenance, appropriate mitigation measures would be taken to reduce noise impacts to a level below significant (see **MM-BIO-4** through **MM-BIO-7**).

Deviations from the City's ESL Regulations can be granted by the decision-maker if the applicant makes the appropriate findings. Since MWMP activities would result in impacts to wetlands that are unavoidable, TSW would request a deviation and make the appropriate SDP findings under LDC Section 126.0505 and CDP findings under LDC Section 126.0708 for facilities located with the City's Coastal Overlay Zone (COZ). The MWMP would be an essential public project as defined by ESL Regulations Section 143.0150(d)(1)(B) because it would involve the maintenance of existing public infrastructure. Maintenance and repair activities within facilities located within the COZ would also be economically necessary to reduce flood risks, restore conveyance capacities, and repair damaged infrastructure. No feasible alternatives exist that would fully comply with ESL Regulations involving the negligible loss of wetland vegetation, and a deviation finding would be required as part of the SDP and CDP process.

Project-level MWMP activities that deviate from the ESL Regulations, such as an unavoidable impact to wetlands, could result in a physical impact on the environment. However, impacts to biological resources that would result due to necessary deviations from the ESL Regulations would be mitigated for through implementation of compensatory wetland mitigation and restrictions on grading during the bird breeding season (see Section 5.3, Biological Resources).

Project level MWMP activities would generally comply with the ESL Regulations; however, since impacts to wetlands or grading during a sensitive bird breeding season is unavoidable, a deviation is required. Since the deviation would result in a secondary physical impact on the environment, these activities could have a **potentially significant** land use impact (**LU-1**). However, implementation of mitigation for wetland impacts (**MM-BIO-1a**) and restriction on grading and indirect noise impacts during bird breeding seasons (**MM-BIO-4** through **MM-BIO-7**) would reduce potential land use impacts to **less than significant**.

Issue 3: Would the project result in a conflict with the provisions of the City's Multiple Species Conservation Program Subarea Plan or other approved local, regional, or state habitat conservation plan?

Project-Level Analysis (FMPs)

City of San Diego MSCP Subarea Plan

Proposed MWMP facilities were analyzed for potential conflicts with City of San Diego MSCP Subarea Plan. According to the City's *CEQA Significance Determination Thresholds*, land use compatibility impacts may be significant if a project would result in an inconsistency/conflict with adopted environmental plans for an area. For example, a use incompatible with the MSCP for development within the MHPA would fall into this category.

The City's MSCP Subarea Plan includes a list of land uses that are considered conditionally compatible within the MHPA (Section 1.4.1, Compatible Land Uses), one of which includes essential public facilities. (i.e., storm water conveyance systems and maintenance of existing public infrastructure as defined by the City's LDC Section 143.0510(d)). Essential public utility infrastructure in the MHPA is subject to siting and design policies that minimize impacts to sensitive biological resources, including avoidance of wetlands, unless infeasible. Storm water conveyance systems work with the flow of water and follow low points within their respective geographic landscapes. They are typically located within drainages or streambeds and can also be located within the MHPA or associated with core biological resource areas. Because of this association with watercourses, complete avoidance of wetlands is infeasible. Similarly, the MHPA includes canyon bottoms and upland areas, so avoidance of the MHPA is infeasible.

However, as described in Chapter 3 of the MWMP (Appendix A), a facility selection, research, and hydrology and hydraulic evaluation was completed to ensure that maintenance activities that impact wetlands and other biological resources within the MHPA are minimized to only those areas where a flood risk reduction or infrastructure maintenance or repair is necessary, and where biological impacts can be mitigated to below a level of significance. During the facility selection process, most core biological resources areas (e.g., main-stems of San Diego River, Rose Creek, San Clemente

Creek, Los Peñasquitos Canyon Creek) were screened out of the MWMP due to a lack of flood risk and/or low likelihood that biological impacts could be mitigated to below a level of significance, given the large scale of the MWMP planning effort. The hydrology and hydraulic analysis provided for further minimization of impacts by identifying maintenance only in those areas where flood risk is effectively reduced.

In addition, because there are MWMP facility maintenance areas that occur within and adjacent to the MHPA, documented compliance with the MSCP Land Use Adjacency Guidelines is required (see also Environmental Protocols, above). Therefore, Table 5.8-2, Project Consistency Determination with MSCP Land Use Considerations, documents compliance with the MSCP.

Although encroachment into the MHPA is proposed as part of the MWMP, the proposed maintenance activities are considered essential public facilities. Essential public facilities are conditionally compatible with the biological objectives of the MSCP (City of San Diego 1997). Project-level MWMP activities would therefore not require MHPA boundary adjustments. The environmental protocols described above address additional conditions for location within the MHPA. Therefore, the MWMP would not conflict with the land use consideration of the MSCP Subarea Plan. Therefore, impacts would be **less than significant** with implementation of **EP-LU-1**.

Table 5.8-2
Project Consistency Determination with MSCP Land Use Considerations

MSCP Section	Applicability	Implementation
MHPA Compatible Land Uses *Section 1.4.1 MSCP Subarea Plan*	*Applicability*	*Implementation*
The following land uses are considered conditionally compatible with the biological objectives of the MSCP and thus will be allowed within the City's MHPA: • Passive recreation • Utility lines and roads in compliance with policies described in Section 1.4.2 • Limited water facilities and other essential public facilities • Limited low density residential uses • Brush management (Zone 2) • Limited agriculture	The MWMP would maintain existing public infrastructure and would qualify as an essential public project; therefore, it is a compatible land use within the City's MHPA.	**N/A**
MHPA General Planning Policies and Design Guidelines *Section 1.4.2 MSCP Subarea Plan*	*Applicability*	*Implementation*
Roads and Utilities		
All proposed utility lines (e.g., sewer, water, etc.) should be designed to avoid or minimize intrusion into the MHPA. These facilities should be routed through developed or developing areas rather than the MHPA, where possible. If no other routing is feasible, then the lines should follow previously existing roads, easements, rights-of-way and disturbed areas, minimizing habitat fragmentation.	Maintenance of infrastructure (i.e., facility segments) under the MWMP would have a total of 14.72 acres of short-term impacts within the MHPA, which would be limited to the minimum necessary area to provide flood control function. In addition, maintenance crew access and staging areas have been sited to remain within developed or disturbed areas within the MHPA whenever feasible.	N/A

Table 5.8-2
Project Consistency Determination with MSCP Land Use Considerations

MSCP Section	Applicability	Implementation
All new development for utilities and facilities within or crossing the MHPA shall be planned, designed, located and constructed to minimize environmental impacts. All such activities must avoid disturbing the habitat of MSCP Covered Species and wetlands. If avoidance is infeasible, mitigation will be required.	Impacts to MHPA lands (i.e., 14.72 acres for all facilities) are necessary to complete the proposed storm drain improvements and include impacts to disturbed and developed areas that are within the MHPA boundary. Work planned is associated with existing channels and infrastructure and does not include the construction of new facilities in MHPA lands. Impacts to California gnatcatcher could occur in MHPA lands at five facility segments if work is to occur during the breeding season.	Maintenance will be conducted outside the breeding season for California gnatcatcher (March 1–August 15) at these five facility segments If avoidance of the breeding season at any of these locations is infeasible, pre-construction protocol-level surveys for this species shall be conducted and proper noise attenuation features, nest buffers, and nest avoidance will be implemented in the event that nesting California gnatcatchers are observed within 300 feet of the work site.
Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable. All such activities must occur on existing agricultural lands or in other disturbed areas rather than in habitat. If temporary habitat disturbance is unavoidable, then restoration of, and/or mitigation for, the disturbed area after project completion will be required.	All temporary access and staging areas will be situated within previously developed or disturbed areas, and will avoid native habitat to the maximum extent practicable. Given the periodic nature of maintenance, appropriate erosion control measures will also be implemented in areas subject to erosion between maintenance events.	Any unexpected impacts to vegetated areas temporarily disturbed by maintenance activities will require restoration with native species (**BIO-2)**.

Table 5.8-2
Project Consistency Determination with MSCP Land Use Considerations

MSCP Section	Applicability	Implementation
Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage. Environmental documents and mitigation monitoring and reporting programs covering such development must clearly specify how this will be achieved, and construction plans must contain all the pertinent information and be readily available to crews in the field. Training of construction crews and field workers must be conducted to ensure that all conditions are met. A responsible party must be specified.	Maintenance activities will be relatively short in duration or would occur in areas that are surrounded by native habitat that can provide movement linkage for wildlife when maintenance is being performed. Maintenance activities would only occur during daylight hours, when wildlife movement is typically limited. EPs include training of field crews in the protocols needed to avoid impacts to sensitive resources, including wildlife corridors.	MHPA boundaries will be clearly marked in the field and a biologist will be on site full-time to ensure these boundaries are observed.
Roads in the MHPA will be limited to those identified in Community Plan Circulation Elements, collector streets essential for area circulation, and necessary maintenance/emergency access roads. Local streets should not cross the MHPA except where needed to access isolated development areas.	Access, staging, and stockpiling areas and routes have been sited to be within disturbed or developed areas whenever possible, and to minimize impacts to sensitive habitat where necessary.	N/A
Development of roads in canyon bottoms should be avoided whenever feasible. If an alternative location outside the MHPA is not feasible, then the road must be designed to cross the shortest length possible of the MHPA in order to minimize impacts and fragmentation of sensitive species and habitat. If roads cross the MHPA, they should provide for fully-functional wildlife movement capability. Bridges are the preferred method of providing for movement, although	Access, staging, and stockpiling areas and routes have been sited to be within disturbed or developed areas whenever possible, and to minimize impacts to sensitive habitat where necessary.	N/A

Table 5.8-2
Project Consistency Determination with MSCP Land Use Considerations

MSCP Section	Applicability	Implementation
culverts in selected locations may be acceptable. Fencing, grading and plant cover should be provided where needed to protect and shield animals, and guide them away from roads to appropriate crossings.		
Where possible, roads within the MHPA should be narrowed from existing design standards to minimize habitat fragmentation and disruption of wildlife movement and breeding areas. Roads must be located in lower quality habitat or disturbed areas to the extent possible.	Access, staging, and stockpiling areas and routes will be narrowed to the minimum width necessary for maintenance equipment to utilize them. These routes have been sited to be within disturbed or developed areas whenever possible, and to minimize impacts to sensitive habitat where necessary.	N/A
For the most part, existing roads and utility lines are considered a compatible use within the MHPA and therefore will be maintained. Exceptions may occur where underutilized or duplicative road systems are determined not to be necessary as identified in the Framework Management.	Wherever possible, maintenance access routes would be aligned with existing roads and those roads properly maintained.	N/A
Fencing, Lighting, and Storage		
Fencing or other barriers will be used where it is determined to be the best method to achieve conservation goals and adjacent to land uses incompatible with the MHPA. For example, use chain link or cattle wire to direct wildlife to appropriate corridor crossings, natural rocks/boulders or split rail fencing to direct public access to appropriate locations, and chain link to provide added protection of certain sensitive species or habitats (e.g., vernal pools).	No permanent barriers are required or proposed. Temporary fencing will be used at the up and downstream ends of facility segments that have high potential for Ridgway's rail to occur in order to discourage this sensitive wildlife species from entering the project area.	This fencing will be installed prior to the start of maintenance activities under supervision of the monitoring biologist **(EP-BIO-3a-c)**.

Table 5.8-2
Project Consistency Determination with MSCP Land Use Considerations

MSCP Section	Applicability	Implementation
Lighting shall be designed to avoid intrusion into the MHPA and effects on wildlife. Lighting in areas of wildlife crossings should be of low sodium or similar lighting. Signage will be limited to access and litter control and educational purposes.	No temporary or permanent lighting is currently proposed as part of MWMP maintenance activities and no night work is planned.	If lighting is required for emergency maintenance, low pressure sodium illumination (or similar) will be used and lighting will be directed away from sensitive vegetation and adjacent trees, according to **EP-BIO-2**.
Materials Storage		
Prohibit storage of materials (e.g., hazardous or toxic chemicals, equipment, etc.) within the MHPA and ensure appropriate storage per applicable regulations in any areas that may impact the MHPA, especially due to potential leakage.	Equipment storage and the storage of hazardous or toxic chemicals will not occur within the MHPA. Equipment storage and material stockpiling will occur in designated disturbed upland and developed lands.	The project development footprint within and adjacent to MHPA lands will be clearly delineated on maintenance documents and in the field by maintenance crews, under supervision of the monitoring biologist, with temporary flagging and/or fencing, according to **EP-BIO-3a-c and EP-WQ-1**.

Table 5.8-2
Project Consistency Determination with MSCP Land Use Considerations

MSCP Section	Applicability	Implementation
Flood Control		
Flood control should generally be limited to existing agreements with resource agencies unless demonstrated to be needed based on a cost benefit analysis and pursuant to a restoration plan. Floodplains within the MHPA, and upstream from the MHPA if feasible, should remain in a natural condition and configuration in order to allow for the ecological, geological, hydrological, and other natural processes to remain or be restored.	Maintenance under the MWMP would be limited to the minimum necessary area within each facility in order for the facility to provide adequate flood control function. No artificial material would be installed in any facility within the MHPA and the floodplains will be kept in their natural condition to the maximum extent practicable.	N/A
No berming, channelization, or man-made constraints or barriers to creek, tributary, or river flows should be allowed in any floodplain within the MHPA unless reviewed by all appropriate agencies, and adequately mitigated. Review must include impacts to upstream and downstream habitats, flood flow volumes, velocities and configurations, water availability, and changes to the water table level.	No permanent berming or channelization is proposed. Post-maintenance erosion control measures may be utilized to address erosive velocities, based on hydrology and hydraulic analysis. Temporary berms may also be installed in facilities with active flows at the time of maintenance in order to prevent these flows from travelling through maintenance areas and impacting downstream water quality.	The use of temporary diversions and post-maintenance erosion control will be based on analysis provided in the *Water Pollution Control Plan* (WPCP) **(EP-WQ-1).**

Table 5.8-2
Project Consistency Determination with MSCP Land Use Considerations

MSCP Section	Applicability	Implementation
No riprap, concrete, or other unnatural material shall be used to stabilize river, creek, tributary, and channel banks within the MHPA. River, stream, and channel banks shall be natural, and stabilized where necessary with willows and other appropriate native plantings. Rock gabions may be used where necessary to dissipate flows and should incorporate design features to ensure wildlife movement.	No new artificial materials will be used to stabilize facility banks within the MHPA. Riprap, concrete, and other materials will only be replaced, as necessary and in accordance with prior as-built or original design, if appropriate. Riprap may be installed as a post-maintenance erosion control measure, but only in areas outside the MHPA.	N/A
MHPA Land Use Adjacency Guidelines Section 1.4.3 MSCP Subarea Plan	*Applicability*	*Implementation*
	Drainage	
All new and proposed parking lots and developed areas in and adjacent to the preserve must not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials and other elements that might degrade or harm the natural environment or ecosystem processes within the MHPA.	Ground disturbance for the MWMP will be limited to removal of accumulated material in flood control facilities and no paved lots or new development will be installed. Measures would be taken to prevent runoff of hazardous material from access, staging, and stockpile locations into sensitive areas. Consistent with the City Storm Water Standards Manual, flows toward the MHPA shall be minimized.	The MHPA boundary and the limits of maintenance disturbance shall be clearly delineated on the construction documents and surveyed by the monitoring biologist. Measures to prevent runoff will be implemented according to **EP-BIO-3a-c, EP-WQ-1,** and **EP-LU-1**.

Table 5.8-2
Project Consistency Determination with MSCP Land Use Considerations

MSCP Section	Applicability	Implementation
Toxics		
Land uses, such as recreation and agriculture, that use chemicals or generate by-products such as manure, that are potentially toxic or impactive to wildlife, sensitive species, habitat, or water quality need to incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA.	No hazardous construction materials storage would be allowed which could impact the adjacent MHPA (including fuel or sediment) and any drainage from the construction site must be clear of such materials. Consistent with the City Storm Water Standards Manual, flows toward the MHPA shall be minimized.	The contractor shall ensure all areas for staging, storage of equipment and materials, trash, equipment maintenance, and other construction related activities are within the limits of the project Area of Potential Effect (APE).
Lighting		
Lighting of all developed areas adjacent to the MHPA should be directed away from the MHPA. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.	No additional permanent lighting or night work is proposed for the MWMP.	If lighting is required for emergency nighttime maintenance, it would be used according to the measures described in **EP-BIO-2**
Noise		
Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that may introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate	Whenever possible, maintenance activities under the MWMP would be conducted outside of the breeding season of sensitive wildlife species. If maintenance is required to be conducted during the breeding season of sensitive wildlife and suitable habitat is present within or adjacent to the facility segment planned for	Protocol surveys may be required for potential impacts to certain avian species during their breeding season: California gnatcatcher (3/1–8/15), least Bell's vireo (04/01–09/15), southwestern willow flycatcher (05/01 09/01), and Ridgway's rail (03/15–08/15).

Table 5.8-2
Project Consistency Determination with MSCP Land Use Considerations

MSCP Section	Applicability	Implementation
noise reduction measures should also be incorporated for the remainder of the year.	maintenance, appropriate measures will be taken to reduce noise impacts to a level below significant.	
Barriers		
New development adjacent to the MHPA may be required to provide barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) along the MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation.	No permanent barriers or new development are required or proposed under the MWMP. All impacts would be short-term and related to maintenance activities. However, fences or other barriers may be installed, as necessary, surrounding mitigation areas associated with the MWMP within and adjacent to the MHPA.	Assessment will be made on a site-by-site basis for mitigation associated with MWMP to determine if barriers are appropriate.
Invasive Species		
No invasive non-native plant species shall be introduced into areas adjacent to the MHPA.	Any plant species installed within 100 feet of the MHPA as part of revegetation work shall comply with the Landscape Regulations (LDC Section 142.0400 and per Table 142-04F, Permanent Revegetation and Irrigation Requirements) and be non-invasive.	The City shall permanently revegetate all graded, disturbed, or eroded areas using native species, according to **BIO-2**.
Brush Management		
New residential development located adjacent to and topographically above the MHPA (e.g., along canyon edges) must be set back from slope edges to incorporate Zone 1	The MWMP is not a structural development and would not create any new brush management zones.	N/A

Table 5.8-2
Project Consistency Determination with MSCP Land Use Considerations

MSCP Section	Applicability	Implementation
brush management areas on the development pad and outside of the MHPA.		
Grading/Land Development		
Manufactured slopes associated with site development shall be included within the development footprint for projects within or adjacent to the MHPA.	No manufactures slopes are proposed or associated with the MWMP.	N/A

5.8.7 PROGRAM-LEVEL ANALYSIS (OTHER MWMP ACTIVITIES)

Programmatic activities would include minor maintenance activities, changed conditions or new/substantially amended FMPs, new compensatory mitigation sites (see Section 5.3, Biological Resources), and emergency maintenance or repair. Under the MWMP, these additional programmatic activities are subject to the review and approval processes outlined in the MWMP.

Minor programmatic maintenance or repair activities would not affect ESL or result in a regulated impact to resources under the jurisdiction of the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, Regional Water Quality Control Board, California Coastal Commission, or City of San Diego. These activities may include maintenance of facilities such as storm water pipes, culverts, inlet/outlet structures, ditches, channels, brow ditches, basins, and permanent BMPs. These facilities are most often within the public right-of-way or developed areas. A variety of other activities may also be considered minor maintenance, including trash and debris removal by hand, homeless encampment clearing, graffiti removal, vegetation management, sediment removal, erosion control maintenance, and infrastructure repair. Minor maintenance or repair activities would be exempt from an SDP or CDP, and no deviation would be required because no ESL would be impacted.

As described above under Issue 1, the proposed MWMP is intended to maintain, repair, and improve existing infrastructure, as necessary, to ensure the reliability of the City's storm water system. Overall, the proposed MWMP is not anticipated to conflict with any applicable land use plans, policies, or regulations of local agencies (see Table 5.8-1). Some programmatic activities under the MWMP would require vegetation removal, some of which would be wetland or riparian habitat. These activities potentially conflict with goals and policies intended to preserve sensitive biological resources (e.g., General Plan Conservation Element Policies CE-C.1 and CE-H.8). The potential inconsistency with goals and policies intended to protect sensitive biological resources can generally be addressed by the application of the ESL Regulations to the MWMP or its components. Since vegetation diminishes the ability of storm water facilities to safely transport flood waters, it must be removed to prevent flooding and to improve the overall intended functionality of these storm water facilities. Similar to project-level activities, programmatic MWMP activities would be largely consistent with the goals and policies of the General Plan and community plans, and they would not preclude the attainment of the primary intent of the General Plan or community plans; impacts would be **less than significant**.

Similar to project-level activities discussed under Issue 2, program-level activities would generally comply with the City's ESL Regulations. However, Program-level MWMP activities that deviate from the ESL Regulations, such as an unavoidable impact to wetlands, could result in a physical impact on the environment that would be considered **potentially significant** (**LU-1**). Since MWMP activities

would result in impacts to wetlands that are unavoidable, TSW would request a deviation and make the appropriate SDP findings under LDC Section 126.0505, and CDP findings under LDC Section 126.0708 for facilities located with the COZ. The MWMP would be an essential public project as defined by ESL Regulations Section 143.0150(d)(1)(B) because it is the maintenance of existing public infrastructure. Deviations from the City's ESL Regulations can be granted by the decision-maker if the applicant makes the appropriate findings. Maintenance and repair activities within facilities located within the COZ would also be economically necessary to reduce flood risks, restore conveyance capacities, and repair damaged infrastructure. No feasible alternatives exist that would fully comply with ESL Regulations involving the negligible loss of wetland vegetation, and a deviation finding would be required as part of the SDP and CDP process. If an activity would trigger a deviation to the ESL regulations, such as an unavoidable impact to wetlands, and result in a physical impact on the environment, specific biological resources mitigation measures would be implemented mitigated that would reduce potential land use impacts to **less than significant** (see Section 5.3, Biological Resources).

Regarding Issue 3, programmatic activities may require encroachment into the MHPA, but the proposed maintenance activities would be considered essential public projects (City of San Diego 2018a) and an allowed use within the MHPA, as long as the activity is located outside the COZ. Program-level MWMP maintenance activities would not require boundary adjustments, nor would they conflict with the MSCP Subarea Plan. Therefore, programmatic impacts from maintenance would be **less than significant** with implementation of **EP-LU-1**. Implementation of compensatory mitigation sites may require boundary adjustments to the MHPA to add mitigation areas that are not currently within the MHPA to the MHPA. Proposed future MHPA boundary line adjustments would not conflict with the MSCP Subarea Plan; therefore, impacts would be **less than significant** with implementation of **EP-LU-2**.

5.8.8 SIGNIFICANCE OF IMPACT

As discussed under Issue 1, the proposed MWMP is largely consistent with the goals and policies of the General Plan and Community Plans, and it would not preclude the attainment of the primary intent of the General Plan or Community Plans, and impacts from project- and program-level activities would be **less than significant**.

As discussed under Issue 2, project- and program-level MWMP activities that could result in a physical impact on the environment due to a deviation or variance prior to wetland mitigation or restrictions on grading and noise during the bird breeding season would be **potentially significant**. However, implementation of **MM-BIO-1a** and **MM-BIO-4** through **MM-BIO-7,** as detailed in Section 5.3, Biological Resources would reduce land use and biological resources impacts **to less than significant**.

As concluded under Issue 3, project- and program-level MWMP maintenance activities would not require boundary adjustments, nor would they conflict with the MSCP Subarea Plan. Therefore, maintenance impacts would be **less than significant** with implementation of **EP-LU-1**. Compensatory mitigation that requires an MHPA boundary line adjustment to add lands to the MHPA would not conflict with the MSCP Subarea Plan. Therefore, impacts would be **less than significant** with implementation **EP-LU-2**.

5.8.9 MITIGATION MEASURES

MM-BIO-1a. Compensatory Wetlands Mitigation.

MM-BIO-4. Avoidance of Nesting Bird Impacts.

MM-BIO-5. Avoidance of Listed Species Take.

MM-BIO-6. Avoidance of Raptor Breeding Impacts.

MM-BIO-7. **Avoidance of California Gnatcatcher Breeding Impacts in MHPA**.

For details regarding the mitigation measures identified above, see Section 5.3, Biological Resources.

Mitigation measures and EPs have been identified in Section 5.1, Aesthetics; Section 5.2, Air Quality and Odor; Section 5.3, Biological Resources; Section 5.5, Health and Safety/Hazards; Section 5.6, Historical, Archeological, and Tribal Cultural Resources; Section 5.7, Hydrology; Section 5.9, Noise; Section 5.10, Paleontological Resources; Section 5.11, Solid Waste; and Section 5.12, Water Quality, to help reduce potential physical impacts on the environment as a result of implementation of the MWMP.

5.8.10 SIGNIFICANCE AFTER MITIGATION

Implementation of mitigation for wetland impacts (**MM-BIO-1a**) and restriction on grading and indirect noise impacts during bird breeding seasons (**MM-BIO-4** through **MM-BIO-7**) would reduce potential land use impacts to **less than significant**. In addition to **EP-LU-1** and **EP-LU-2**, all project-level and program-level impacts would be less than significant with implementation of mitigation measures and EPs identified throughout this EIR.

5.9 NOISE

5.9.1 INTRODUCTION

This section describes the existing noise resources setting of the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP); identifies the applicable regulatory framework; evaluates potential impacts associated with noise that would result from the proposed MWMP; identifies mitigation measures, if necessary, to reduce the level of impact associated with implementation of the proposed MWMP; and identifies the level of significance after any mitigation. Information in this section is from the *Noise Analysis Technical Report* for the MWMP, prepared by Dudek in November 2019 and included as Appendix G.

Implementation of the MWMP was determined to result in no impacts related to transportation noise, and no impact related to incompatibility with aircraft noise. As such, potential impacts associated with these issues are analyzed in Chapter 7, Effects Not Found to be Significant.

5.9.2 FUNDAMENTALS OF NOISE AND VIBRATION

Noise Definitions and Criteria

The following is a brief discussion of fundamental noise concepts and terminology.

Sound, Noise, and Acoustics

Sound is a process that consists of three components: the sound source, sound path, and sound receiver. All three components must be present for sound to exist. Without a source to produce sound, there is no sound. Similarly, without a medium to transmit sound pressure waves, there is no sound. Finally, sound must be received; a hearing organ, sensor, or object must be present to perceive, register, or be affected by sound or noise. In most situations, there are many different sound sources, paths, and receptors rather than just one of each. Acoustics is the field of science that deals with the production, propagation, reception, effects, and control of sound. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired.

Sound Pressure Levels and Decibels

The amplitude of a sound determines its loudness. Loudness of sound increases with increasing amplitude. Sound pressure amplitude is measured in units of micronewton per square meter, also called micropascal. One micropascal is approximately one-hundred billionth (0.00000000001) of normal atmospheric pressure. The pressure of a very loud sound may be 200 million micropascals, or 10 million times the pressure of the weakest audible sound. Because expressing sound levels in terms of micropascal would be very cumbersome, sound pressure level in logarithmic units is used

instead to describe the ratio of actual sound pressure to a reference pressure squared. These units are called bels. To provide a finer resolution, a bel is subdivided into 10 decibels (dB).

A-Weighted Sound Level

Sound pressure level alone is not a reliable indicator of loudness. The frequency, or pitch, of a sound also has a substantial effect on how humans will respond. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness, or human response, is determined by the characteristics of the human ear.

Human hearing is limited not only in the range of audible frequencies, but also in the way it perceives the sound in that range. In general, the healthy human ear is most sensitive to sounds between 1,000 and 5,000 hertz, and it perceives a sound within that range as more intense than a sound of higher or lower frequency with the same magnitude. To approximate the frequency response of the human ear, a series of sound level adjustments is usually applied to the sound measured by a sound level meter. The adjustments (referred to as a weighting network) are frequency dependent.

The A-scale weighting network approximates the frequency response of the average young ear when listening to ordinary sounds. When people make judgments about the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special situations (e.g., B-scale, C-scale, D-scale), but these scales are rarely used in conjunction with most environmental noise. Noise levels are typically reported in terms of A-weighted sound levels. All sound levels discussed in this report are A-weighted decibels (dBA). Examples of typical noise levels for common indoor and outdoor activities are depicted in Table 5.9-1.

Table 5.9-1
Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet fly over at 300 meters (1,000 feet)	110	Rock band
Gas lawn mower at 1 meter (3 feet)	100	Food blender at 1 meter (3 feet)
Diesel truck at 15 meters (50 feet), at 80 kilometers per hour (50 miles per hour)	90	Garbage disposal at 1 meter (3 feet)
Noisy urban area, daytime	80	Vacuum cleaner at 3 meters (10 feet);
Gas lawn mower at 30 meters (100 feet)	70	Normal speech at 1 meter (3 feet)
Commercial area	60	Large business office
Heavy traffic at 90 meters (300 feet)	50	Dishwasher next room

Table 5.9-1
Typical Sound Levels in the Environment and Industry

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Quiet urban, daytime	40	Theater; large conference room (background)
Quiet urban, nighttime	30	Library
Quiet suburban, nighttime	20	Bedroom at night; concert hall (background)
Quiet rural, nighttime	10	Broadcast/Recording studio
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: Caltrans 2009
dBA = A-weighted decibel

Human Response to Changes in Noise Levels

Under controlled conditions in an acoustics laboratory, the trained, healthy human ear is able to discern changes in sound levels of 1 dBA when exposed to steady, single-frequency signals in the mid-frequency range. Outside such controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise. It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dBA. A change of 5 dBA is readily perceptible, and a change of 10 dBA is perceived as twice or half as loud. A doubling of sound energy results in a 3 dBA increase in sound, which means that a doubling of sound energy (e.g., doubling the volume of traffic on a road) would result in a barely perceptible change in sound level.

Noise Descriptors

Additional units of measure have been developed to evaluate the long-term characteristics of sound. The equivalent sound level (L_{eq}) is also referred to as the time-average sound level. It is the equivalent steady-state sound level that in a stated period of time would contain the same acoustical energy as the time-varying sound level during the same time period. The 1-hour A-weighted equivalent sound level, L_{eq}(1-hr), is the energy average of the A-weighted sound levels occurring during a 1-hour period and is the basis for the City's noise ordinance criteria.

People are generally more sensitive and annoyed by noise occurring during the evening and nighttime hours. Thus, another noise descriptor used in community noise assessments—the community noise equivalent level (CNEL)—was introduced. The CNEL scale represents a time-weighted, 24-hour average noise level based on the A-weighted sound level. The CNEL accounts for the increased noise sensitivity during the evening hours (7:00 p.m. to 10:00 p.m.) and nighttime

hours (10:00 p.m. to 7:00 a.m.) by adding 5 dBA and 10 dBA, respectively, to the average sound levels occurring during the evening and nighttime hours.

Sound Propagation

Sound propagation (i.e., the passage of sound from a noise source to a receiver) is influenced by geometric spreading, ground absorption, atmospheric effects, and shielding by natural and/or built features.

Sound levels attenuate (diminish) at a rate of approximately 6 dBA per doubling of distance from an outdoor point source due to the geometric spreading of the sound waves. Atmospheric conditions such as humidity, temperature, and wind gradients can also temporarily either increase or decrease sound levels. In general, the greater the distance the receiver is from the source, the greater the potential for variation in sound levels due to atmospheric effects. Additional sound attenuation can result from built features such as intervening walls and buildings, and by natural features such as hills and dense woods.

Groundborne Vibration Fundamentals

Groundborne vibration is a small, rapidly fluctuating motion transmitted through the ground. The strength of groundborne vibration attenuates fairly rapidly over distance. Some soil types transmit vibration quite efficiently; other types (primarily sandy soils) do not. Several basic measurement units are commonly used to describe the intensity of ground vibration. The descriptors used by the Federal Transit Administration are peak particle velocity (PPV), in units of inches per second, and velocity decibel (VdB).

The calculation to determine PPV at a given distance is as follows:

$$PPV_{dist} = PPV_{ref}*(25/D)^{1.5}$$

where:

PPV_{dist} = the peak particle velocity in inches per second of the equipment adjusted for distance

PPV_{ref} = the reference vibration level in inches per second at 25 feet

D = the distance from the equipment to the receiver

The velocity parameter (instead of acceleration or displacement) best correlates with human perception of vibration. Thus, the response of humans, buildings, and sensitive equipment to vibration is described in this section in terms of the root-mean square velocity level in VdB units relative to 1 micro-inch per second. As a point of reference, the average person can just barely

perceive vibration velocity levels below 70 VdB (typically in the vertical direction). The calculation to determine the root-mean square at a given distance is as follows:

$$L_v(D) = L_v(25 \text{ feet}) - 30*\log(D/25)$$

where:

$L_v(D)$ = the vibration level at the receiver

$L_v(25 \text{ feet})$ = the reference source vibration level

D = the distance from the vibration activity to the receiver

Typical background vibration levels are between 50 and 60 VdB, and the level for minor cosmetic damage to fragile buildings or blasting generally begins at 100 VdB.

5.9.3 EXISTING CONDITIONS

Given the wide geographical area encompassed by the MWMP, the existing noise environments are varied. In general, the MWMP program area mainly consists of suburban land uses. The noise environments through most of the MWMP program area are characterized by a background or "ambient" noise level generated by vehicular traffic. Typical secondary noise sources include distant aircraft, rustling leaves, landscaping maintenance, construction noise, birds, children playing, and passing conversations. Noise-sensitive receptors are locations where human activity may be adversely affected by noise. Examples of noise sensitive receptors are residences, hotels and motels, educational institutions, libraries, and hospitals and clinics. The locations of noise-sensitive receptors within 1,000 feet of the proposed MWMP program area are shown in Figures 5.9-1 through 5.9-8.

5.9.3.1 Ambient Noise Monitoring

Noise measurements were made using a Rion NL-52 integrating sound-level meter equipped with a 0.5-inch pre-polarized condenser microphone with pre-amplifier. The sound-level meter meets the current American National Standards Institute standard for a Type 1 (Precision Grade) sound-level meter. The sound-level meter was calibrated before and after the measurements, and the measurements were conducted with the microphone positioned 5 feet above the ground and covered with a windscreen.

Short-term noise measurements were conducted at nine locations in the MWMP vicinity on November 6, 2017, as depicted in Figure 5.9-1, City-Wide Overview/Index Map Noise Sensitive Receptors and Measurement Locations, and Figures 5.9-2 through 5.9-8 for individual locations. These selected noise measurement locations are representative of the existing noise conditions

throughout the MWMP program area. Long-term (i.e., 24-hour) noise measurements were not conducted because there would be no MWMP-related activity during night-time hours. A brief description of where each noise measurement was conducted, as well as the measured time-average sound level and maximum sound level during the measurement interval (L_{max}), is summarized in Table 5.9-2. Detailed noise measurement data are included in Appendix G of this Environmental Impact Report (EIR).

Table 5.9-2
MWMP Measured Noise Locations and Levels

Receptors	Description	L_{eq} (dBA)	L_{max} (dBA)
ST1	West of C3 Performing Arts Center; 25 feet south of Alvarado Creek	56.1	63.2
ST2	North of 1850 Titus Street, San Diego, California 92110; along Robyn's Egg Trail	43.4	51.9
ST3	Southeast corner of 730 Camino del Rio North, San Diego, California 92108	74.4	87.9
ST4	Front yard of 3488 Fireway Drive, San Diego, California 92111	57.7	73.6
ST5	North of multi-family residential complex on Caminito Vecinos, San Diego, California; east of Pomerado Road, San Diego	59.4	72.7
ST6	North of Canyonside Recreation Facility, San Diego	63.3	77.5
ST7	East of Home Avenue Head Start Center, San Diego; East side of Spillman Drive	54.7	65
ST8	Southwest side of Southcrest Community Park	59.4	73.9
ST9	South of U.S. Border Patrol, San Diego Headquarters	57.2	77.6

Source: Appendix G.
L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval; dBA = A-weighted decibel.

Individual noise assessments were conducted as part of a Master Storm Water System Maintenance Program between 2013 and 2018 at an additional 29 locations within the MWMP vicinity, as depicted in Figures 5.9-2 through 5.9-8. Results of these measurements are summarized in Table 5.9-3. Detailed noise measurement data are included in Appendix G.

Table 5.9-3
Additional Measured Noise Levels

MWMP Location	Site	L_{eq} (dBA)	L_{90} (dBA)
Alvarado	ST1	65	N/A
Stadium	ST1	65	62
	ST2	62	60

Table 5.9-3
Additional Measured Noise Levels

MWMP Location	Site	L_{eq} (dBA)	L_{90} (dBA)
	ST3	67	65
	ST4	70	67
	ST5	64	61
Tijuana River	ST1	56	46
	ST2	50	38
	ST3	51	37
	ST4	53	40
	ST5	46	41
	ST6	56	46
	ST7	45	34
	ST8	55	41
	ST9	69	51
Mission Bay	ST1	54	N/A
	ST2	54	N/A
	ST3	55	N/A
Sorrento	ST1	58	54
	ST2	73	47
	ST3	75	72
	ST4	69	62
	ST5	60	55
	ST6	64	60
Montezuma	ST1	41	N/A
	ST2	39	N/A
	ST3	42	N/A
Federal	ST1	71	N/A
	ST2	75	N/A

Source: Appendix G (Appendix A and Figures 2a–2g).
L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{90} = sound level exceeded 90% over measurement interval; dBA = A-weighted decibel; N/A = not available.

5.9.4 REGULATORY SETTING

Federal

There are no applicable federal regulations related to noise that would apply to the MWMP.

State

Government Code Section 65302(g)

California Government Code Section 65302(g) requires the preparation of a Noise Element, which shall identify and appraise the noise problems in the community. The Noise Element shall recognize the guidelines adopted by the Office of Noise Control in the State Department of Health Services and shall quantify, to the extent practicable, current and projected noise levels for the following sources:

- Highways and freeways
- Primary arterials and major local streets
- Passenger and freight online railroad operations and ground rapid transit systems
- Aviation and airport-related operations
- Local industrial plants
- Other ground stationary noise sources contributing to the community noise environment

Local

City of San Diego Municipal Code Section 59.5.0401 (Noise Ordinance)

The City's Municipal Code sets forth sound level limits. It is unlawful for any person to cause noise by any means to the extent that the 1-hour average sound level exceeds the applicable limit given in Table 5.9-4 at any location in the City of San Diego on or beyond the boundaries of the property on which the noise is produced. The noise subject to these limits is the part of the total noise at the specified location that is due solely to the action of said person/event.

Table 5.9-4
City of San Diego Applicable Limits

Land Use	Time of Day	1-Hour Average Sound Level Limit (dBA)
Single-family residential	7:00 a.m.–7:00 p.m.	50
	7:00 p.m.–10:00 p.m.	45
	10:00 p.m.–7:00 a.m.	40
Multi-family residential (up to a maximum density of 1/2,000)	7:00 a.m.–7:00 p.m.	55
	7:00 p.m.–10:00 p.m.	50
	10:00 p.m.–7:00 a.m.	45
All other residential	7:00 a.m.–7:00 p.m.	60
	7:00 p.m.–10:00 p.m.	55

Table 5.9-4
City of San Diego Applicable Limits

Land Use	Time of Day	1-Hour Average Sound Level Limit (dBA)
	10:00 p.m.–7:00 a.m.	50
Commercial	7:00 a.m.–7:00 p.m.	65
	7:00 p.m.–10:00 p.m.	60
	10:00 p.m.–7:00 a.m.	60
Industrial or agricultural	Any time	75

Source: City of San Diego 2010.
dBA = A-weighted decibel

City of San Diego Municipal Code Section 59.5.0404 (Noise Ordinance)

Construction Noise

Section 59.5.0404 of the City's Municipal Code sets forth limitations related to construction noise (City of San Diego 2010).

A. It shall be unlawful for any person, between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington's Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter, or repair any building or structure in such a manner as to create disturbing, excessive, or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. In granting such permit, the Administrator shall consider whether the construction noise in the vicinity of the proposed work site would be less objectionable at night than during the daytime because of different population densities or different neighboring activities; whether obstruction and interference with traffic, particularly on streets of major importance, would be less objectionable at night than during the daytime; whether the type of work to be performed emits noises at such a low level as to not cause significant disturbances in the vicinity of the work site; the character and nature of the neighborhood of the proposed work site; whether great economic hardship would occur if the work were spread over a longer time; and whether proposed night work is in the general public interest; and he/she shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise levels as he/she deems to be required in the public interest.

B. Except as provided in Subsection C hereof, it shall be unlawful for any person, including the City of San Diego, to conduct any construction activity so as to cause, at or beyond the

property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 a.m. to 7:00 p.m.

C. The provisions of Subsection B of this section shall not apply to construction equipment used in connection with emergency work, provided the Administrator is notified within 48 hours after commencement of work.

5.9.5 THRESHOLDS OF SIGNIFICANCE

The City's *California Environmental Quality Act (CEQA) Significance Determination Thresholds* (City of San Diego 2016) and Appendix G of the CEQA Guidelines contain significance guidelines related to noise. The following questions are adapted from the City's Significance Thresholds and Appendix G of the CEQA Guidelines, and provide guidance to determine potential significance for noise impacts:

Issue 1: Would the project result in or create a significant increase in the existing ambient noise level?

Issue 2: Would the project result in the exposure of people to noise levels which exceed the City's adopted noise ordinance or are incompatible with Table K-4?[1]

Issue 3: Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

The City's *California Environmental Quality Act Significance Determination Thresholds* (City of San Diego 2016) document provides guidance for City staff, project proponents, and the public for determining whether, based on substantial evidence, a project may have a significant effect on the environment under Section 21082.2 of CEQA.

5.9.6 APPROACH AND METHODOLOGY

5.9.6.1 Construction Noise Assumptions for Maintenance and Repair

To provide a conservative analysis of typical proposed activities, representative projects were identified by the City based on input from City engineers and operations staff. Information regarding a typical maintenance scenario, including anticipated phasing and phase duration, and equipment, was generated for each of these representative projects.

These representative projects are intended to represent a high-level intensity scenario associated with proposed MWMP implementation. Construction specifications of each activity would vary depending

[1] City of San Diego Noise Land Use Compatibility Chart, California Environmental Quality Act Significance Determination Thresholds, Development Services Department, January 2016.

on the subject site characteristics, maintenance or improvement needs, and type of proposed solution; however, construction requirements for activities within the same category are not expected to differ substantially. Because several of the proposed activities address similar issues, the proposed solutions include similar procedures, many of which are techniques the City has historically used to resolve common issues, including routine activities that do not require advanced planning and design. Therefore, although maintenance of each proposed project- and program-level activity would differ from the scenarios analyzed in the MWMP EIR, the modeled representative projects and estimated maximum noise levels included herein represent a conservative assessment of noise impacts associated with anticipated project- and program-level maintenance. A discussion of programmatic activities and potential impacts is provided in Section 5.9.8 below.

The Federal Highway Administration's Roadway Construction Noise Model (RCNM) (FHWA 2008) and the representative project's equipment information were used to estimate maintenance noise levels at the nearest noise-sensitive land uses. The RCNM is a national model based on the noise calculations and extensive construction noise data compiled for the Central Artery/Tunnel Project in Boston, Massachusetts. This project, which began in the early 1990s, was one of the largest urban construction projects ever built in the United States. The basis for the national model is a spreadsheet tool developed in support of the Central Artery/Tunnel Project. The Central Artery/Tunnel Project predictions originated from U.S. Environmental Protection Agency noise-level work and an Empire State Electric Energy Research Corporation Guide, which uses an "acoustical usage factor" to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation (FHWA 2006).

Input variables for the RCNM consist of the receiver/land use types, the equipment type and number of each equipment type (e.g., two excavators, one loader, one dump truck), the duty cycle for each piece of equipment (i.e., percentage of hours the equipment typically works per day), and the distance from the sensitive noise receptor. The RCNM has default duty cycle values for the various pieces of equipment, which were derived from an extensive study of typical construction activity patterns. Those default duty cycle values were used for this analysis.

Representative Projects

The representative projects are broadly characterized into two main site categories: concrete-lined and earthen-bottom segments. Both site categories include multiple representative segment Facility Maintenance Plans (FMPs) to provide a range of scenarios that could occur over the course of the MWMP. See Selection of Representative Projects for the *Municipal Waterways Maintenance Plan* (Appendix K).

Concrete-Lined Facilities

Proposed maintenance activities in concrete-lined facilities are represented by four representative segment FMPs of varying intensity: 20% or more of the facility requires vegetation removal, less than 20% of the facility requires vegetation removal, minor concrete repair, and major concrete repair. Of the 113 proposed segment FMPs, 43 segments (38%) would consist of less than 20% vegetation removal, and 11 segments (10%) would consist of 20% or more vegetation removal. Additionally, it is estimated that within the 113 FMPs, 50 segments may require minor concrete repair and five segments may require major concrete repair.[2]

Earthen-Bottom Facilities

Proposed maintenance activities in earthen-bottom facilities would include six representative segment FMPs with varying intensity: large to small channels/ditches and basins, outlet/inlet structures, and a facility that is atypical in size. Of the 113 proposed MWMP segment FMPs, 47 (42%) would consist of earthen-bottom channel/ditch or basin segments and 10 (9%) would consist of outlet/inlet structures. In addition, one project, the Tijuana River Smuggler's Gulch project, was analyzed to represent the maximum intensity of anticipated activities associated with earthen-bottom facilities. The Tijuana River Smuggler's Gulch project includes two segments and represents 2% of the FMPs. The earthen-bottom channel/ditch and basins are represented by four representative projects to provide a more complete picture of geographies in the City for typical projects.

Maintenance Timing and Duration

Implementation of maintenance activities for all segments would be ongoing. Based on the Transportation & Storm Water Department's fleet and personnel capacity, it was determined that a maximum of 10 maintenance activities[3] could occur concurrently and represent the most conservative possible daily scenario.

[2] Concrete repair represents additional facility work at locations where vegetation and sediment removal are also anticipated and do not represent separate facilities or standalone FMPs. These concrete repair projects, therefore, do not count toward the 113 segment FMPs.

[3] Representative projects used to estimate maximum concurrent daily activities include representative project IDs 1 through 5 and 7 through 10, with project ID 9 duplicated to represent two occurrences.

5.9.6.2 Representative Projects for Concrete-Lined Channel Maintenance and Repair Activities

The representative projects for concrete-lined maintenance and repair activities selected for this noise analysis are described in this section. Table 5.9-5 presents a summary of the representative projects for proposed concrete-lined maintenance and repair activities analyzed herein.

Table 5.9-5
Representative Projects for Concrete-Lined Maintenance and Repair Activities

Project ID	Potential Scenarios	Approx. No. of FMP Segments Represented	Representative FMP(s)	Approx. Linear Feet	Approx. Cubic Yards
1	Concrete with vegetation removal (20% or more vegetated)	11	San Diego River – Camino del Rio Segment 1	1,000	800
2	Concrete with vegetation removal (less than 20% vegetated)	43	Alvarado Canyon Creek – Mission Gorge Segment 2	600	1,400
3	Minor concrete repair	50	Generic Concrete Repair FMP	50	32
4	Major concrete repair	5	Tijuana River – Via Encantadoras Segment 3	900	121

FMP = Facility Maintenance Plan

Details and maintenance activity assumptions for each representative project are provided in the following sections.

Concrete-Lined with 20% or More Vegetation Removal

Of the 113 proposed MWMP segment FMPs, 11 segments (10%) are estimated to require 20% or more vegetation removal (i.e., more than 20% of the facility supports mature vegetation cover). The San Diego River–Camino del Rio Segment 1 was chosen to represent these projects. The sediment/debris at this site was 3–4 feet deep with dense or very dense vegetation requiring mechanical removal. Maintenance scenario details for concrete-lined facilities with 20% or more vegetation removal are provided in Table 5.9-6.

Table 5.9-6
Representative Project 1 Assumptions – Concrete-Lined Facilities with 20% or More Vegetation Removal

Maintenance Activity Phase	Days	One-Way Vehicle Trips			Equipment		
		Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Maintenance Activities	10	48	4	100	Excavators	1	8
					Skid steer loaders	1	8
					Crushing/ Processing Equipment[1]	1	8
					Sweeper/ scrubber[2]	1	2
Pump Use	2	0	0	0	Pumps	6	6

Notes: Equipment and activities listed are from the Facility Maintenance Plan San Diego River–Camino del Rio assumptions sheet.

[1] Adjusted to 10 horsepower to reflect the use of EZ-Screen 1000XL.

[2] Adjusted to 142 horsepower to reflect the weighted average of Global Sweeping 4 Wheel Center, Schwarze M6000, Tymco 500X, Allianz Johnston 4000SP, Allianz Johnston Madvac 4000, and Tymco 210SRE.

Concrete-Lined with Less than 20% Vegetation Removal

Of the 113 proposed MWMP segment FMPs, 43 segments (38%) are estimated to require less than 20% vegetation removal (i.e., less than 20% of the facility supports mature vegetation cover). The Alvarado Canyon Creek–Mission Gorge Segment 2 was chosen to represent these projects. The sediment/debris at this site was ranged from bare concrete to 2.5 feet of sediment/debris. Vegetation ranged from light to heavy. Maintenance scenario details for concrete-lined segments with less than 20% vegetation removal are provided in Table 5.9-7.

Table 5.9-7
Representative Project 2 Assumptions – Concrete with Less Than 20% Vegetation Removal

Maintenance Activity Phase	Days	One-Way Vehicle Trips			Equipment		
		Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Maintenance Activities	14	48	2	175	Excavators	1	8
					Skid steer loaders	1	8
					Tractors/loaders/backhoes	1	8
					Crane	1	4
					Sweeper/ scrubber[1]	1	2
Pump Use	3	0	0	0	Pumps	6	6

Notes: Equipment and activities listed are from the Facility Maintenance Plan Alvarado Canyon Creek–Mission Gorge Segment 2 assumptions sheet and Facility Maintenance Plan assumptions sheets for similar representative projects.

[1] Adjusted to 142 horsepower to reflect the weighted average of Global Sweeping 4 Wheel Center, Schwarze M6000, Tymco 500X, Allianz Johnston 4000SP, Allianz Johnston Madvac 4000, and Tymco 210SRE.

Minor Concrete Repair

Of the 113 proposed MWMP segment FMPs, 50 segments (44%) with minor concrete repair are estimated to occur. A general concrete repair FMP Segment was chosen to represent these segments. Activities would include 50 feet of concrete repair and 6 cubic yards of haul. Maintenance scenario details for concrete repair are provided in Table 5.9-8.

Table 5.9-8
Representative Project 3 Assumptions – Minor Concrete Repair

Maintenance Activity Phase	Days	One-Way Vehicle Trips			Equipment		
		Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Concrete Repair	10	48	6	2	Excavators	1	5
					Backhoes (tractors/ loaders/ backhoes)	1	5
					Pumps	2	5
					Concrete saws (concrete/ industrial saws)	1	5
					Sweeper/ scrubber[1]	1	2

Notes: Equipment and activities listed are from the Concrete Repair Methods Table assumptions sheet.
[1] Adjusted to 142 horsepower to reflect the weighted average of Global Sweeping 4 Wheel Center, Schwarze M6000, Tymco 500X, Allianz Johnston 4000SP, Allianz Johnston Madvac 4000, and Tymco 210SRE.

Major Concrete Repair

Of the 113 proposed MWMP segment FMPs, five segments (5%) are estimated to require major concrete repair. The Via Encantadoras Segment 3 was chosen to represent these projects. These projects were assumed to include the removal of 121 cubic yards of concrete. Scenario details for major concrete repair are provided in Table 5.9-9.

Table 5.9-9
Representative Project 4 Assumptions – Major Concrete Repair

Maintenance Activity Phase	Days	One-Way Vehicle Trips			Equipment		
		Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Concrete Repair	80	48	6	16	Excavators	1	5
					Backhoes (tractors/loaders/ backhoes)	1	5
					Rubber-tired dozers	1	1
					Pumps	2	5
					Concrete saws (concrete/industrial saws)	1	5
					Sweeper/scrubber[1]	1	2

Notes: Equipment and activities listed are from the Facility Maintenance Plan Via Encantadoras Segment 3 assumptions sheet.

[1] Adjusted to 142 horsepower to reflect the weighted average of Global Sweeping 4 Wheel Center, Schwarze M6000, Tymco 500X, Allianz Johnston 4000SP, Allianz Johnston Madvac 4000, and Tymco 210SRE.

5.9.6.3 Representative Projects for Earthen-Bottom Facility Maintenance and Repair

The representative proposed earthen-bottom facility maintenance and repair projects selected for this noise analysis are described in this section. Table 5.9-10 presents a summary of the representative proposed earthen-bottom facility maintenance and repair projects analyzed herein.

Table 5.9-10
Representative Earthen-Bottom Maintenance and Repair Projects Summary

Project ID	Potential Scenarios	Approx. No. of FMP Segments Represented	Representative FMP(s)	Approx. Linear Feet	Approx. Cubic Yards
5	Earthen Facility Typical – 1	8	Mission Bay – Mission Bay Drive Segment 1	1,000	2,600
6	Earthen Facility Typical – 2	8	Murphy Canyon Creek – Stadium Segment 1	1,700	3,800

Table 5.9-10
Representative Earthen-Bottom Maintenance and Repair Projects Summary

Project ID	Potential Scenarios	Approx. No. of FMP Segments Represented	Representative FMP(s)	Approx. Linear Feet	Approx. Cubic Yards
7	Earthen Facility Typical – 3	16	Tecolote Creek – Genesee Segment 1	700	3,600
8	Earthen Facility Typical – 4	15	Mission Hills Canyon Creek – Titus Segment 1	80	200
9	Earthen Facility Typical Outlet/Inlet Structure	10	Outlet/Inlet Structure – 4202 J Street	115	32
10	Tijuana River Smuggler's Gulch Project	2	Tijuana River – Pilot & Smuggler's Gulch Segments	8,300[1]	30,000

Source: City of San Diego 2016.
Notes: FMP = Facility Maintenance Plan
[1] The Tijuana River Smuggler's Gulch represents two segments modeled as one project and should not be doubled to determine estimated emissions from these segments.

Details and maintenance assumptions for each representative project are provided in the following sections.

Earthen-Bottom Facilities Typical – 1 through 4

Of the 113 proposed MWMP segment FMPs, 47 segments (42%) are classified as earthen-bottom channel/ditch or basin facility maintenance areas. Due to the large proportion of these segments included in the MWMP, four representative projects were used for modeling: Mission Bay Drive, Murphy Canyon Creek Stadium, Tecolote Creek–Genesee, and Mission Hills Canyon Creek–Titus segments. Maintenance scenario details for these segments are provided in Tables 5.9-11, 5.9-12, 5.9-13, and 5.9-14.

Table 5.9-11
Representative Project 5 Assumptions – Earthen-Bottom Facilities Typical – 1

Maintenance Activity Phase	Days	One-Way Vehicle Trips			Equipment		
		Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Maintenance Activities	14	60	6	325	Excavators	1	8
					Crushing/processing equipment[1]	1	8
					Crane	1	4
					Sweeper/scrubber[2]	1	2
Vegetation Clearing	2	0	0	0	Fuel-powered hand tools (concrete/industrial saws)[3]	4	8
Pre-Maintenance Pumping	14	0	0	0	Pumps	2	8
Pump Use	3	0	0	0	Pumps	6	6

Notes: Equipment and activities listed are from the Facility Maintenance Plan Mission Bay Mission Bay Drive Segment 1 assumptions sheet.

[1] Adjusted to 10 horsepower to reflect the use of EZ-Screen 1000XL.

[2] Adjusted to 142 horsepower to reflect the weighted average of Global Sweeping 4 Wheel Center, Schwarze M6000, Tymco 500X, Allianz Johnston 4000SP, Allianz Johnston Madvac 4000, and Tymco 210SRE.

[3] Adjusted to 9 horsepower to reflect the use of chainsaws.

Table 5.9-12
Representative Project 6 Assumptions – Earthen-Bottom Facilities Typical – 2

Maintenance Activity Phase	Days	One-Way Vehicle Trips			Equipment		
		Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Maintenance Activities	45	72	2	238	Excavators	1	8
					Pumps	2	8
					Rubber-tired dozers	1	8
					Skid steer loaders	1	8
					Sweepers/ scrubbers[1]	1	2

Table 5.9-12
Representative Project 6 Assumptions – Earthen-Bottom Facilities Typical – 2

Maintenance Activity Phase	Days	One-Way Vehicle Trips			Equipment		
		Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
					Tractors/loaders/ backhoes	1	8
Haul to Remove Stockpile	45	0	0	238	N/A	N/A	N/A
Pump Use	*9*	*0*	*0*	*0*	Pumps	6	6

Notes: Equipment and activities listed are from the Facility Maintenance Plan Murphy Canyon Creek Stadium Segment 1 assumptions sheet.

[1] Adjusted to 142 horsepower to reflect the weighted average of Global Sweeping 4 Wheel Center, Schwarze M6000, Tymco 500X, Allianz Johnston 4000SP, Allianz Johnston Madvac 4000, and Tymco 210SRE.

Table 5.9-13
Representative Project 7 Assumptions – Earthen-Bottom Facilities Typical – 3

Maintenance Activity Phase	Days	One-Way Vehicle Trips			Equipment		
		Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Maintenance Activities	30	56	2	450	Excavators	1	8
					Pumps	2	8
					Rubber-tired dozers	1	8
					Skid steer loaders	1	8
					Tractors/loaders/ backhoes	1	8
					Sweeper/ scrubber[1]	1	2
Pump Use	3	0	0	0	Pumps	6	6

Notes: Equipment and activities listed are from the Facility Maintenance Plan Tecolote Creek–Genesee assumptions sheet.

[1] Adjusted to 142 horsepower to reflect the weighted average of Global Sweeping 4 Wheel Center, Schwarze M6000, Tymco 500X, Allianz Johnston 4000SP, Allianz Johnston Madvac 4000, and Tymco 210SRE.

Table 5.9-14
Representative Project 8 Assumptions – Earthen-Bottom Facilities Typical – 4

Maintenance Activity Phase	Days	One-Way Vehicle Trips			Equipment		
		Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Maintenance Activities	14	48	2	26	Excavators	1	8
					Pumps	2	8
					Rubber-tired dozers	1	8
					Skid steer loaders	1	8
					Tractors/loaders/ backhoes	1	8
					Sweeper/scrubber[1]	1	2
Pump Use	3	0	0	0	Pumps	6	6

Notes: Equipment and activities listed are from the Facility Maintenance Plan Mission Hills Canyon Creek–Titus assumptions sheet.

[1] Adjusted to 142 horsepower to reflect the weighted average of Global Sweeping 4 Wheel Center, Schwarze M6000, Tymco 500X, Allianz Johnston 4000SP, Allianz Johnston Madvac 4000, and Tymco 210SRE.

Outlet and Inlet Structure

There are 10 structural FMPs (9% of the MWMP total) that would involve outlet/inlet maintenance and repair. The 4202 J Street outlet/inlet structure was chosen to represent these projects. Maintenance scenario details are provided in Table 5.9-15.

Table 5.9-15
Representative Project 9 Assumptions – Typical Outlet and Inlet Structure

Maintenance Activity Phase	Days	One-Way Vehicle Trips			Equipment		
		Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Inlet/Outlet Maintenance	5	48	6	4	Skid steer loaders	1	5
					Excavators	1	5
					Chainsaws (concrete/industrial saws)	2	5
					Sweeper/scrubber[1]	1	2

Notes: Equipment and activities listed are from the Facility Maintenance Plan 4202 J Street assumptions sheet.

[1] Adjusted to 142 horsepower to reflect the weighted average of Global Sweeping 4 Wheel Center, Schwarze M6000, Tymco 500X, Allianz Johnston 4000SP, Allianz Johnston Madvac 4000, and Tymco 210SRE.

Tijuana River Smuggler's Gulch Project

In addition to the representative projects, the MWMP would include one uncharacteristically large project that does not resemble standard maintenance activities. The Tijuana River Smuggler's Gulch project maintenance scenario assumptions are provided in Table 5.9-16.

Table 5.9-16
Representative Project 10 Assumptions – Tijuana River Smuggler's Gulch

Maintenance Activity Phase	Days	One-Way Vehicle Trips			Equipment		
		Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Grading	100	24	10	5,000	Excavators	2	6
					Metal-tracked dozers (crawler tractors)	2	6
					Front-end loader (rubber-tired loader)	1	6
					Backhoe (tractor/loader/ backhoe)	1	6
					Ditch witch trencher (trencher)	1	2
					Skid steer/bobcat	1	6
					Sweeper/scrubber[1]	1	2
Pump Use	25	0	0	0	Pumps	6	6

Notes: Equipment and activities listed are from the Tijuana River Valley Channel Maintenance Project Focused Air Quality and Greenhouse Gas Emissions Analysis Memorandum.

[1] Adjusted to 142 horsepower to reflect the weighted average of Global Sweeping 4 Wheel Center, Schwarze M6000, Tymco 500X, Allianz Johnston 4000SP, Allianz Johnston Madvac 4000, and Tymco 210SRE.

5.9.6.4 Operation

No operational (i.e., long-term fixed-location) noise emissions are anticipated. Since implementation of the MWMP would involve maintenance and repair of existing storm water facilities, no new development or land uses are proposed. The MWMP does not include any long-term development, operational equipment, or new employees. Therefore, no operational noise would be created as a result of implementation of the MWMP.

5.9.7 IMPACTS

As described in Chapter 4, Project Description, the MWMP includes a description of maintenance and repair activities and supporting implementation methods. The majority of these activities are routine and anticipated to occur in conformance with specific FMPs included in the MWMP (Appendix A). Routine refers to typical activities that occur on a regular, ongoing basis and are associated with maintaining storm water infrastructure. However, additional activities not identified in an FMP may be required and may occur anywhere within the City's storm water conveyance system.

Potential site-specific impacts associated with implementation of MWMP activities and methods as identified in the FMPs are described below under the "Project-Level Analysis (FMPs)" heading for each of the issues identified. As further detailed in Chapter 4, Project Description, MWMP activities consist of maintenance and repair activities. Maintenance activities include vegetation and invasive plant species management, sediment/debris removal, structural/debris/trash-fence clearing, and culvert clearing. Repair activities include concrete (minor and major) and bank repair, and structural/debris/trash-fence repair.

Potential impacts associated with implementation of additional MWMP activities and methods (e.g., minor maintenance, changed conditions/new or substantially amendment FMPs, compensatory mitigation sites, and emergency maintenance) are identified under Section 5.9.8, Program-Level Analysis (Other MWMP Activities). These impacts are analyzed to the extent feasible at this time; however, additional project-level CEQA analysis and/or new or amended permits may be required prior to implementation.

Issue 1: Would the project result or create a significant increase in the existing ambient noise levels?

Project-Level Analysis (FMPs)

This section evaluates potential impacts associated with noise that would result from the proposed activities under the MWMP. Maintenance activities under the proposed MWMP would generate noise from the use of heavy equipment (including excavators, dump trucks, skid steers, backhoes, dozers, pumps, and other similar equipment) at the sites or vehicles transporting material to and from the maintenance sites. Equipment anticipated for the proposed MWMP would not include the type associated with substantially higher-noise-generation characteristics (such as pile drivers, rock drills, and blasting equipment). This type of equipment would not be necessary for implementation of the proposed MWMP.

As described in Section 5.9.6.1, the Federal Highway Administration's RCNM and equipment assumptions based on input from City engineers and operations staff were used to estimate noise

levels at a representative receiver distance of 100 feet from the equipment/activity. The input and output from this and the other RCNM analyses are included in Appendix B of Appendix G of this EIR, and the results are summarized in Table 5.9-17. As shown in Table 5.9-17, the highest hourly average (L_{eq} (1-hour)) sound levels associated with proposed maintenance activities would range from approximately 70 to 79 dBA L_{eq}, at a distance of 100 feet. On an average 12-hour basis, the maintenance activity noise levels are estimated to range from approximately 69 to 75 dBA L_{eq}. The City of San Diego's 12-hour average construction noise standard of 75 dBA L_{eq} would not be exceeded at a distance of 100 feet for any of the representative projects. For instances in which noise-sensitive receives are located less than 100 feet from maintenance activities, temporary significant noise increases could result. Therefore, maintenance noise impacts for activities conducted under the MWMP would be **potentially significant** (**NOI-1**), absent mitigation.

Table 5.9-17
Maintenance Noise Modeling Summary

Project	Potential Maintenance Phase	Days	Maintenance Activity Noise Level (dBA L_{eq} (1-hr)) at Representative Receiver Distance (100 feet)	Maintenance Activity Noise Level (dBA L_{eq} (12-hr))* at Representative Receiver Distance (100 feet)	City of San Diego Construction Noise Standard (75 dBA L_{eq} (12-hr)) Exceeded?
1. Concrete with Vegetation Removal (20% or more vegetated)	Maintenance Activities	10	77	73	No
	Pump Use	2	75	73	No
2. Concrete with Vegetation Removal (less than 20% vegetated)	Maintenance Activities	14	77	73	No
	Pump Use	3	74	73	No
3. Minor Concrete Repair	Concrete Repair	10	77	74	No
4. Major Concrete Repair	Concrete Repair	80	78	74	No
5. Earthen Facility Typical – 1	Maintenance Activities	14	77	72	No
	Vegetation Clearing	2	76	75	No
	Pre-Maintenance Pumping	14	71	69	No
	Pump Use	3	74	73	No
6. Earthen Facility Typical – 2	Maintenance Activities	45	79	75	No
	Haul to Remove Stockpile	45	N/A	N/A	No
	Pump Use	9	74	73	No

Table 5.9-17
Maintenance Noise Modeling Summary

Project	Potential Maintenance Phase	Days	Maintenance Activity Noise Level (dBA L_{eq} (1-hr)) at Representative Receiver Distance (100 feet)	Maintenance Activity Noise Level (dBA L_{eq} (12-hr))* at Representative Receiver Distance (100 feet)	City of San Diego Construction Noise Standard (75 dBA L_{eq} (12-hr)) Exceeded?
7. Earthen Facility Typical – 3	Maintenance Activities	30	78	75	No
	Pump Use	3	77	73	No
8. Earthen Facility Typical – 4	Maintenance Activities	14	75	75	No
	Pump Use	3	76	73	No
9. Earthen Facility Typical Outlet/Inlet Structure	Inlet/Outlet Maintenance	5	79	73	No
10. Tijuana River Smuggler's Gulch	Grading	100	70	75	No
	Pump Use	25	78	73	No

Notes: dBA = A-weighted decibel; Leq (1-hr) = 1-hour A-weighted equivalent sound level; Leq (12-hr) = 12-hour A-weighted equivalent sound level

* 12-hour average noise levels were derived by averaging the hours of anticipated activity hours over a 12-hour period, in the logarithmic domain. For example, for Representative Project 4, there would typically be approximately 5 hours of work and would produce an hourly noise level when work is in progress of up to approximately 78 dBA Leq, but when averaged over a 12-hour day when there would be 5 hours of "on" time and 7 hours of "off" time, the average noise level would be approximately 74 dBA Leq (12-hour).

Issue 2: Would the project result in the exposure of people to noise levels which exceed the City's adopted noise ordinance or are incompatible with Table K-4?

Project-Level Analysis (FMPs)

Table K-4 is primarily a planning tool to ensure long-term compatibility of various land uses. As discussed in Section 5.9.6.4, Operation, the proposed MWMP would not result in any long-term development, operational equipment, or new employees. Therefore, no operational noise would be created, and the proposed MWMP would be compatible with the standards in Table K-4.

However, as discussed above under Issue 1, noise levels from maintenance activities conducted under the proposed MWMP were estimated and are summarized in Table 5.9-17. None of the representative projects would exceed the City's Municipal Code Noise Ordinance standard for construction (75 dBA L_{eq} (12-hr)) when these activities would take place within 100 feet of noise-sensitive receivers (residences, hotels and motels, educational institutions, libraries, and hospitals and clinics). However, other activities with noise levels less than 75 dBA L_{eq} (12-hr) at a distance of 100 feet could exceed the City's 75 dBA L_{eq} (12-hr) noise standard if residences are located less than 100 feet away. Therefore, impacts would be **potentially significant** (**NOI-2**), absent mitigation.

Issue 3: Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Project-Level Analysis (FMPs)

Groundborne vibration from heavy equipment operations during the course of maintenance activities under the proposed MWMP was evaluated using the methodology contained in Section 12.2 of the FTA Manual (FTA 2006) and compared with relevant vibration impact criteria. Groundborne vibration information related to the use of heavy construction equipment has been collected by the California Department of Transportation. This information indicates that continuous vibrations with a peak particle velocity of approximately 0.1 inches per second begin to annoy people (Caltrans 2004).

At a distance of approximately 50 feet, the typical closest distance to the nearest residences, the vibration levels from heavy construction machinery (such as a large bulldozer that could be used) would be 0.031 inches per second, or 0.074 inches per second from a vibratory roller. Vibration levels of this magnitude would be below the threshold of perception (0.10 inches per second) or the damage threshold for fragile structures (0.20 inches per second). Therefore, vibration levels resulting from heavy construction equipment would not result in excessive groundborne vibration levels, and impacts would be **less than significant**.

5.9.8 PROGRAM-LEVEL ANALYSIS (OTHER MWMP ACTIVITIES)

Programmatic activities would include minor maintenance activities, changed conditions or new/substantially amended FMPs, new compensatory mitigation sites (see Section 5.3, Biological Resources), and emergency maintenance or repair. Under the MWMP, these additional programmatic activities are subject to the review and approval processes outlined in the MWMP.

Similar to project-level activities analyzed above, programmatic activities, such as, minor maintenance, establishing a new compensatory mitigation site, and emergency maintenance and repair, all have the ability to generate some level of noise. As stated above in Section 5.9.6, Approach and Methodology, representative projects were used to conservatively estimate potential noise impacts from different types of MWMP activities. The representative projects are intended to represent a maximum, or most conservative, scenario associated with the different types of activities, including programmatic activities, which would occur under the MWMP.

Maintenance specifications of each programmatic activity would vary depending on the subject site characteristics, maintenance or improvement needs, and type of proposed solution; however, maintenance requirements for activities within the same category are not expected to differ substantially. Because several of the proposed projects address similar issues, the proposed solutions include similar procedures, many of which are techniques the City has historically used to resolve common issues, including routine activities that do not require advanced planning or design. Therefore, although all project- and program-level activities would differ from the exact scenarios analyzed in this EIR, the modeled representative projects and estimated maximum noise levels included herein would represent a conservative assessment of noise impacts associated with anticipated maintenance.

Therefore, as discussed above for Issue 1, the City's 12-hour average construction noise standard of 75 dBA L_{eq} could be exceeded for projects located within 100 feet of noise-sensitive receivers (residences, hotels and motels, educational institutions, libraries, hospitals, and clinics). Additionally, based on typical daytime measured ambient noise levels, which ranged from approximately 43 to 75 dBA L_{eq} at representative noise-sensitive receiver locations near the MWMP sites, noise levels from maintenance activities would be 1 to 2 dB or more decibels higher at times than ambient noise levels. Thus, impacts would be **potentially significant** (**NOI-1**), absent mitigation.

Similar to project-level activities, as discussed for Issue 2, activities with noise levels less than 75 dBA L_{eq} (12-hour) at a distance of 100 feet could exceed the City's 75 dBA L_{eq} (12-hour) noise standard if residences are located less than 100 feet away. Therefore, impacts would be **potentially significant** (**NOI-2**), absent mitigation.

Regarding groundborne vibration, as discussed for Issue 3, at a distance of approximately 50 feet, the vibration levels from heavy construction machinery (such as a large bulldozer) would be 0.031 inches per second, or 0.074 inches per second from a vibratory roller. Vibration levels of this magnitude would be below the threshold of perception (0.10 inches per second) or the damage threshold for fragile structures (0.20 inches per second). Therefore, vibration levels resulting from heavy construction equipment during program-level activities would not result in excessive groundborne vibration levels, and impacts would be **less than significant**.

5.9.9 SIGNIFICANCE OF IMPACT

As discussed for Issue 1, temporary maintenance noise impacts for project- and program-level activities conducted under the MWMP would be potentially significant prior to mitigation (**NOI-1**). In addition, as discussed for Issue 2, and in Section 5.9.8, compliance with the City's adopted Noise Ordinance would be a potentially significant impact prior to mitigation (**NOI-2**) for project- and program-level activities.

Lastly, as discussed for Issue 3 and in Section 5.9.8, vibration levels resulting from heavy construction equipment would not result in excessive groundborne vibration levels, and impacts would be less than significant.

5.9.10 MITIGATION MEASURES

MM-NOI-1 **Noise Reduction Techniques.** Prior to the Notice to Proceed, Mitigation Monitoring Coordination (MMC) shall verify that projects (i.e., maintenance and repair activities) located within 100 feet of noise-sensitive receivers include noise-reduction measures to ensure activities do not exceed and comply with City of San Diego (City) Noise Standards (San Diego Municipal Code Section 59.5.0401, Sound Level Limits, and Section 59.5.0404, Construction Noise), as follows:

A. The City Transportation & Storm Water Department (TSW) crew or maintenance/construction contractor shall be required to work in such a manner so as not to exceed a 12-hour average sound level of 75 dBA between 7:00 a.m. and 7:00 p.m. Monday through Saturday.

B. Noise reduction measure(s) shall include implementation of any one or more of the following noise-reducing measures:

   a. Limit the number of equipment operating at once;

   b. Install temporary plywood noise barriers 8 feet in height between the maintenance site and sensitive receptors;

c. Construction equipment shall be properly outfitted with sound control devices and maintained with manufacturer recommended noise-reduction devices to minimize construction-generated noise. "Properly outfitted" implies that the device (e.g., silencer, muffler) is effective in that it is the correct size and type for the specific equipment, it is in good working order, and is installed in such a way that it reduces the noise in the way it was intended;

d. Stationary noise sources such as generators or pumps shall be located at least 100 feet from noise-sensitive land uses as feasible;

e. Laydown and maintenance/construction vehicle staging areas shall be located as far from noise sensitive land uses as feasible; and/or

f. As recommended by a qualified acoustician, implement any other alternative noise reducing best available technologies, methods or practices as approved by the MMC.

C. During maintenance or repair activities, noise monitoring can be conducted at any time to ensure that the work is in compliance with the City's construction noise standard of 75 dBA L_{eq} (12-hour). If activities are found to be in exceedance of this standard, alternative methods (e.g., such as the use of quieter equipment, fewer pieces of equipment operating at any one time) shall be implemented and verified by MMC to meet City noise standards.

D. Prior to the issuance of the Notice to Proceed or if work is stopped during maintenance or repair activities by the MMC, TSW shall obtain a permit or similar authorization from the Noise Abatement and Control Administrator if maintenance and repair activities does not comply with San Diego Municipal Code Section 59.5.0404 – Construction Noise.

E. If authorized emergency work is necessary and will likely occur or exceed these noise limitations, TSW shall notify the Noise Abatement and Control Administrator within 48 hours after commencement of work.

Effectiveness of this mitigation measure would vary from several decibels (which in general is a relatively small change) to 10 or more decibels (which subjectively would be perceived as a substantial change), depending on the specific equipment and the original condition of that equipment, the specific locations of the noise sources and the receivers, and other variables. Installation of a noise barrier, for example, would vary in effectiveness depending on the degree to which the line-of-sight between the source and receiver is broken, and typically ranges from 5 to 10 dB. Installation of more effective silencers could affect noise levels from several decibels to well over 10 dB. Reduction of idling equipment could reduce overall noise levels from barely any reduction to

several decibels. Cumulatively, however, these measures would result in substantial decreases in the noise from maintenance activities.

5.9.11 SIGNIFICANCE AFTER MITIGATION

With implementation of **MM-NOI-1**, noise impacts resulting from project- and program-level maintenance activities would be reduced to **less than significant** and would be below the standards established by the City.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

City of San Diego

Noise Measurement Locations

Existing Noise Measurement Locations

- Alvarado
- Federal
- Mission Bay
- Montezuma
- Stadium
- Sorrento
- Tijuana River

Waterways Maintenance Plan

- Project Facility Maintenance Plans (FMPs)
- Additional Facilities (WMP Limited Program-Level Activities)

5.9-1

5.9-2

5.9-3

5.9-4

5.9-5

5.9-6

5.9-7

5.9-8

Watershed

- San Dieguito River
- Los Peñasquitos
- Mission Bay
- San Diego River
- Pueblo San Diego
- Sweetwater
- Otay
- Tijuana River

N

0 2.5 5 Miles

SOURCE: ESRI, 2017; SANDAG, 2017; USGS, 2012

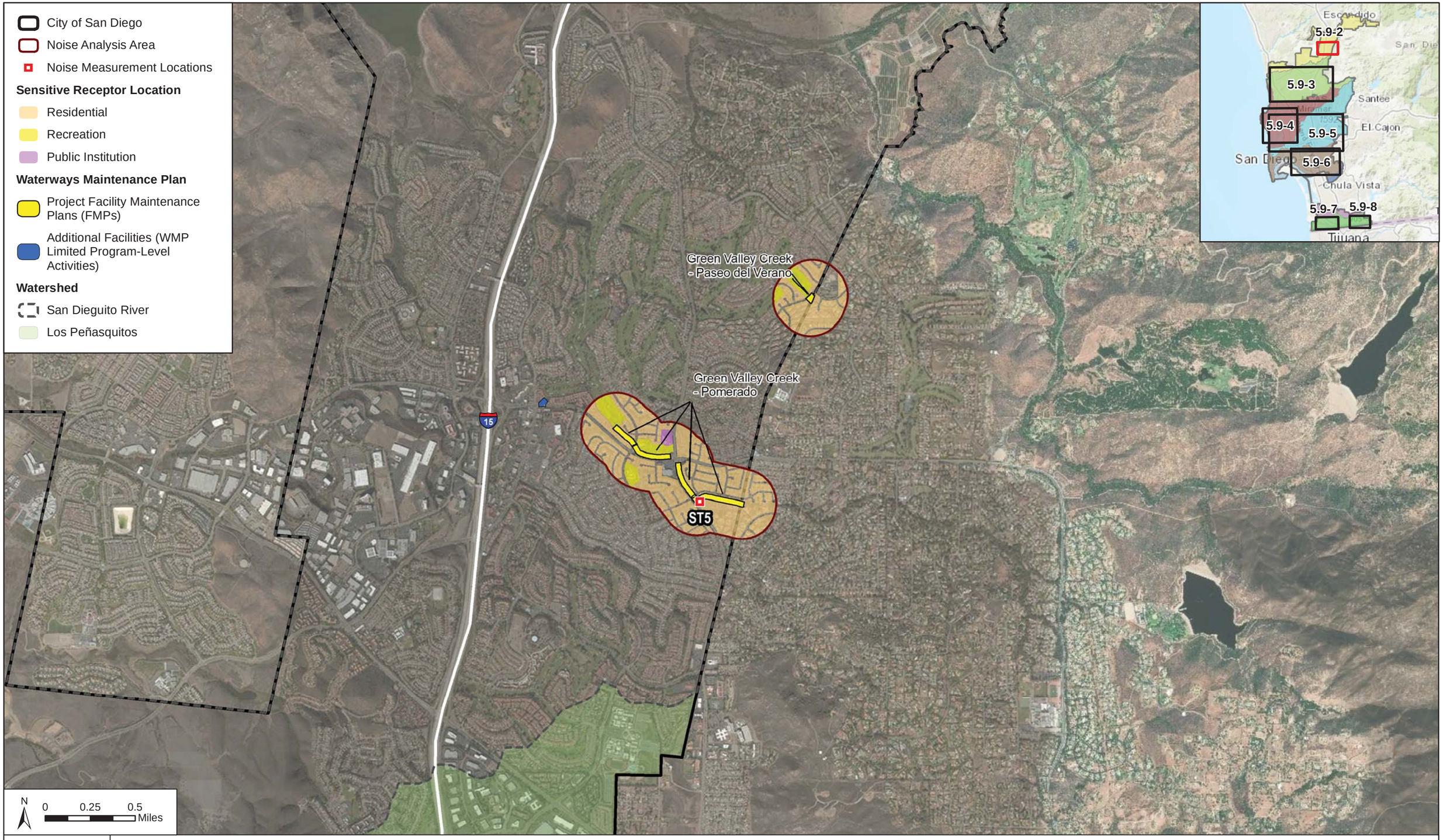
DUDEK

Noise Sensitive Receptors and Measurement Locations

Municipal Waterways Maintenance Plan EIR

Figure 5.9-1 - City-Wide Overview/Index Map

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



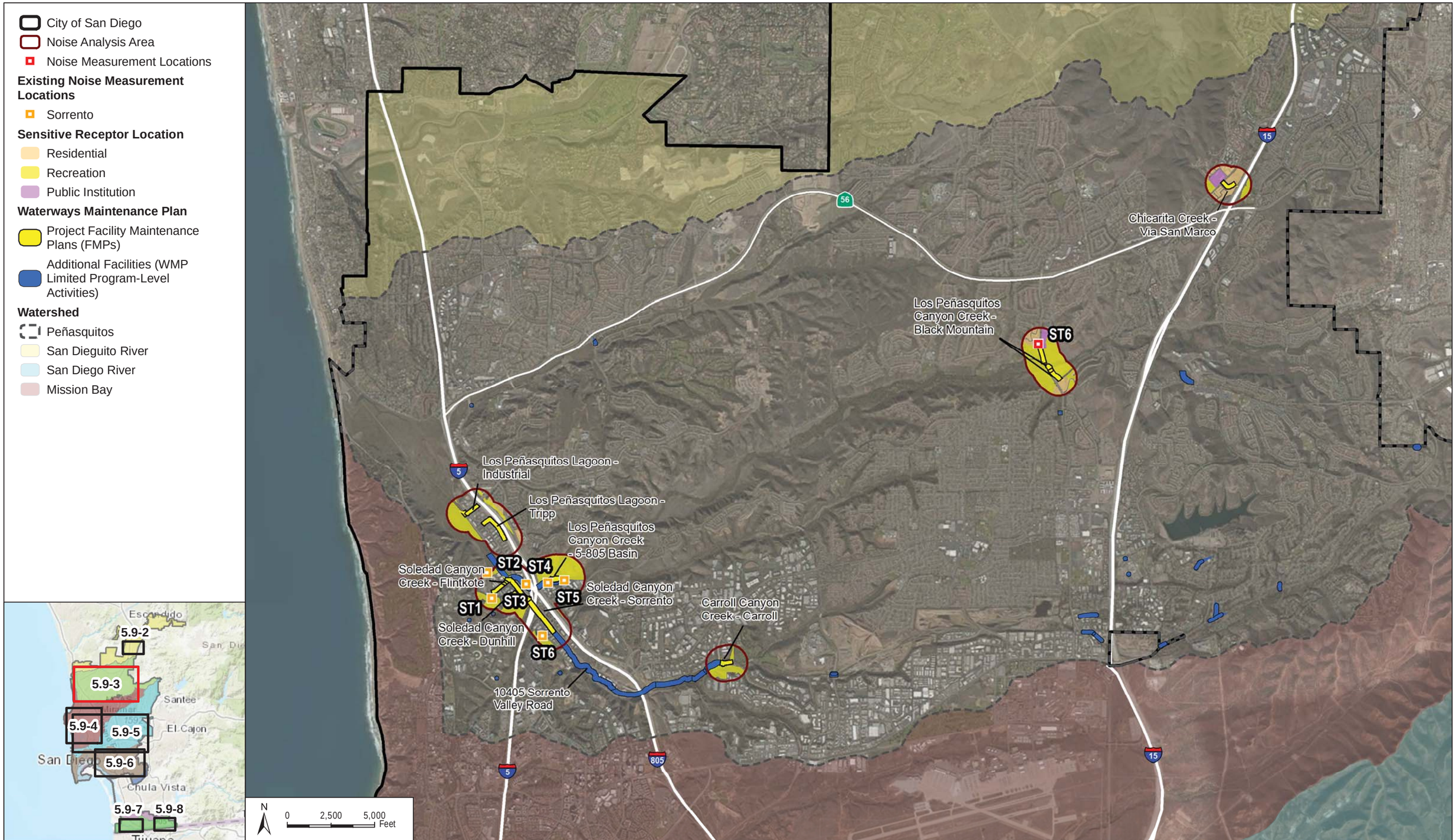
SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

DUDEK

Noise Sensitive Receptors and Measurement Locations
Municipal Waterways Maintenance Plan EIR

Figure 5.9-2 - San Dieguito River Watershed

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



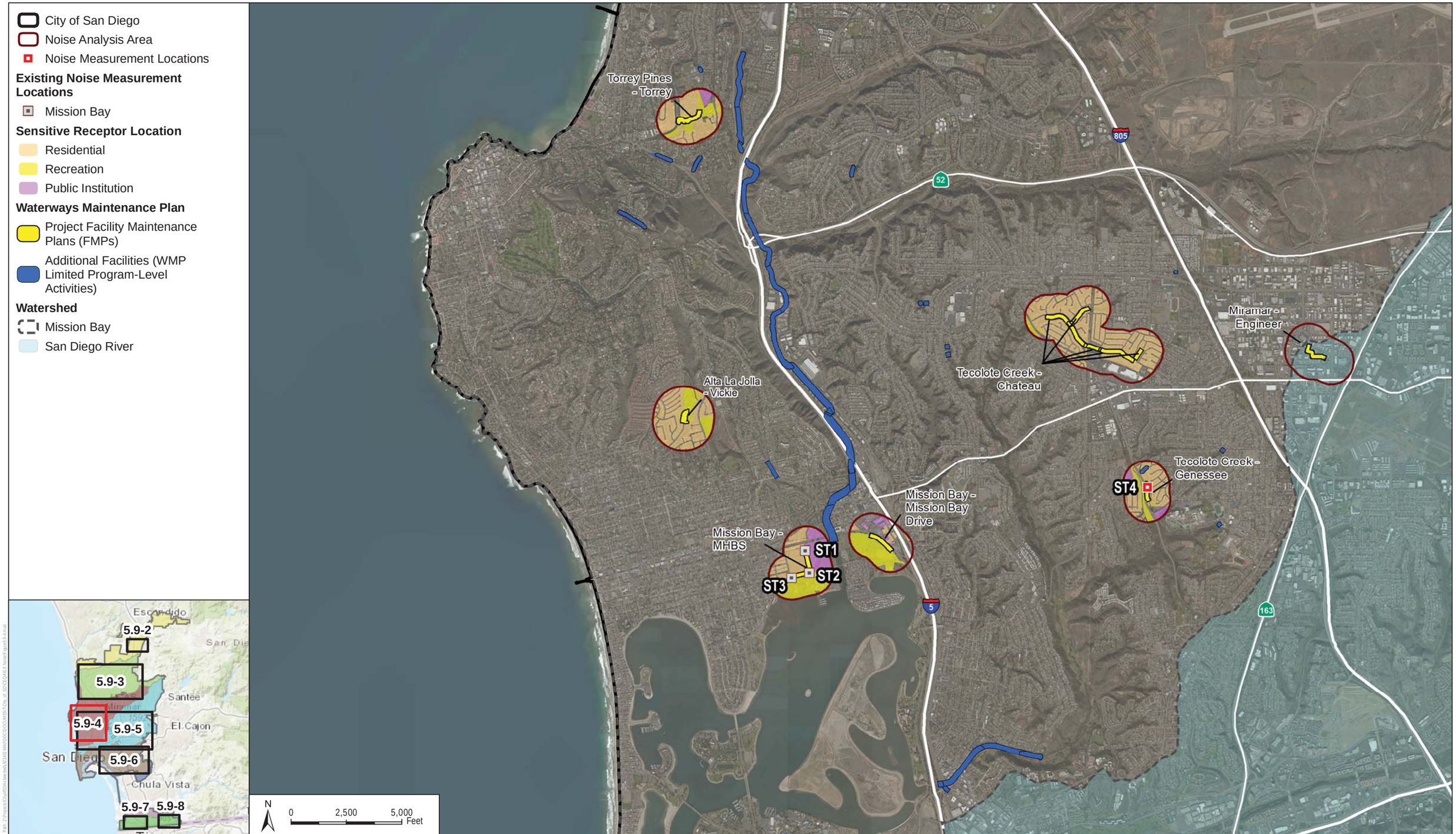
SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

DUDEK

Noise Sensitive Receptors and Measurement Locations
Municipal Waterways Maintenance Plan EIR

Figure 5.9-3 - Los Peñasquitos Watershed

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

DUDEK

Noise Sensitive Receptors and Measurement Locations
Municipal Waterways Maintenance Plan EIR

Figure 5.9-4 - Mission Bay Watershed

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

City of San Diego
Noise Analysis Area
Noise Measurement Locations

Existing Noise Measurement Locations

Alvarado
Montezuma
Stadium

Sensitive Receptor Location

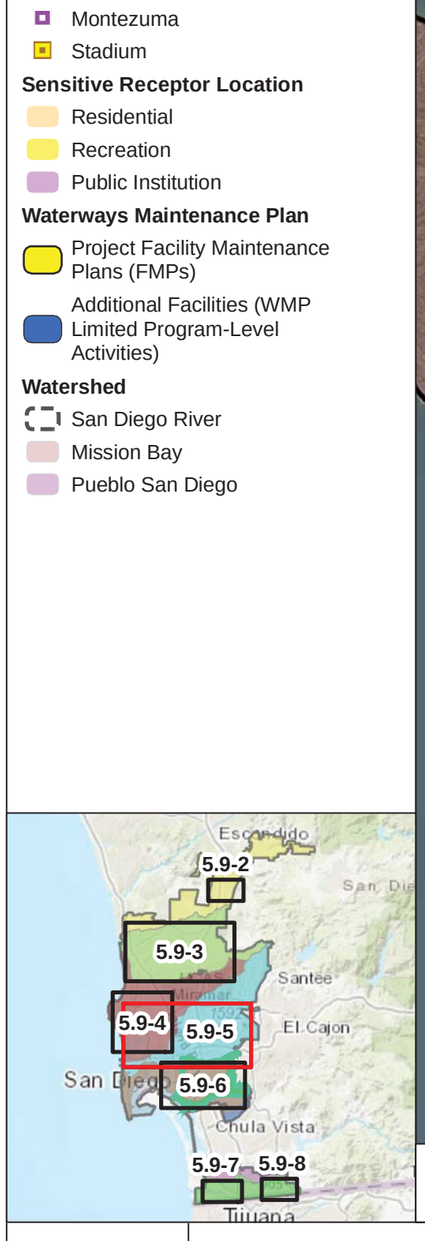
Residential
Recreation
Public Institution

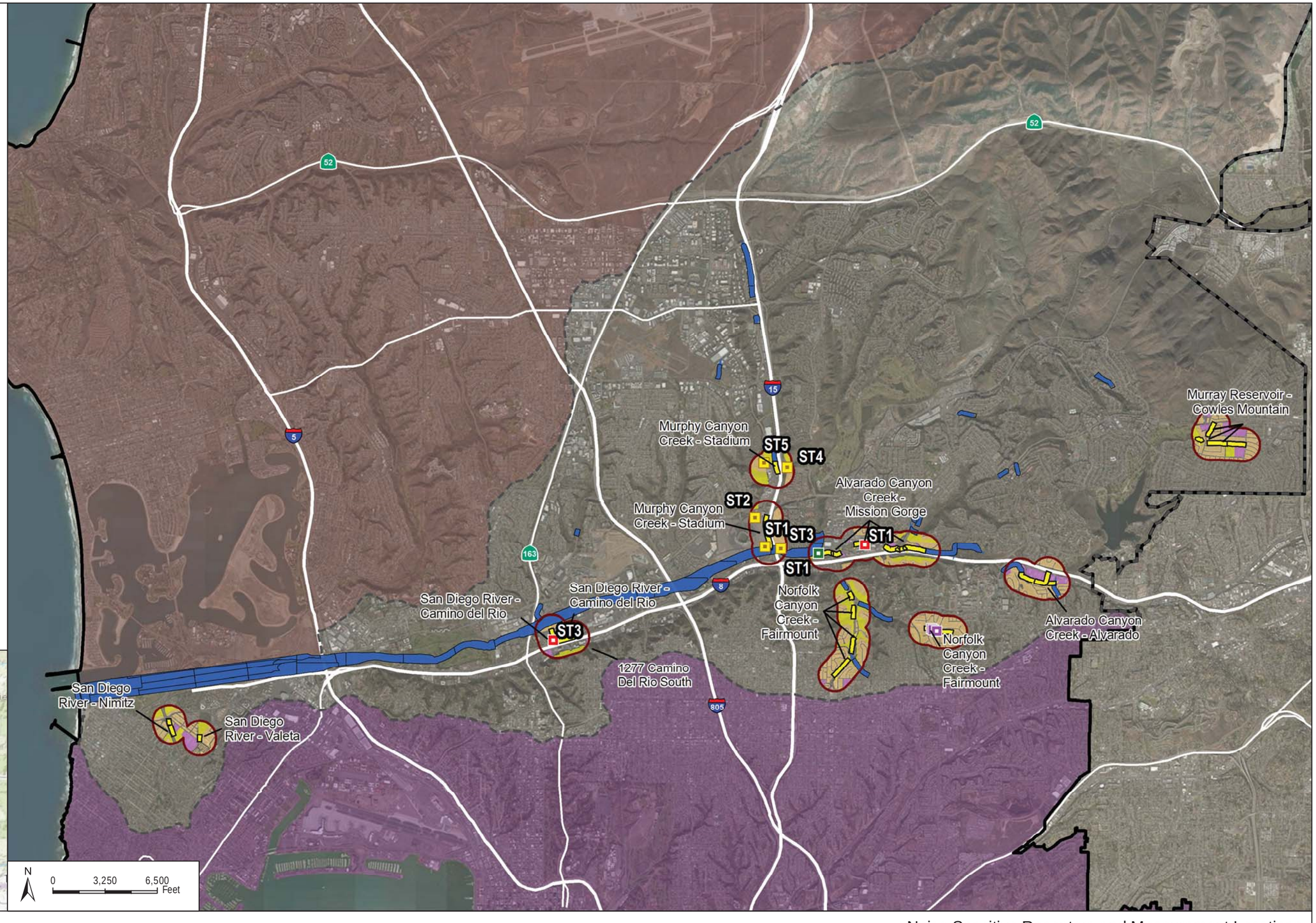
Waterways Maintenance Plan

Project Facility Maintenance Plans (FMPs)
Additional Facilities (WMP Limited Program-Level Activities)

Watershed

San Diego River
Mission Bay
Pueblo San Diego





SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

DUDEK

Noise Sensitive Receptors and Measurement Locations
Municipal Waterways Maintenance Plan EIR

Figure 5.9-5 - San Diego River Watershed

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

City of San Diego

Noise Analysis Area

Noise Measurement Locations

Existing Noise Measurement Locations

Federal

Sensitive Receptor Location

Residential

Recreation

Public Institution

Open Space

Waterways Maintenance Plan

Project Facility Maintenance Plans (FMPs)

Additional Facilities (WMP Limited Program-Level Activities)

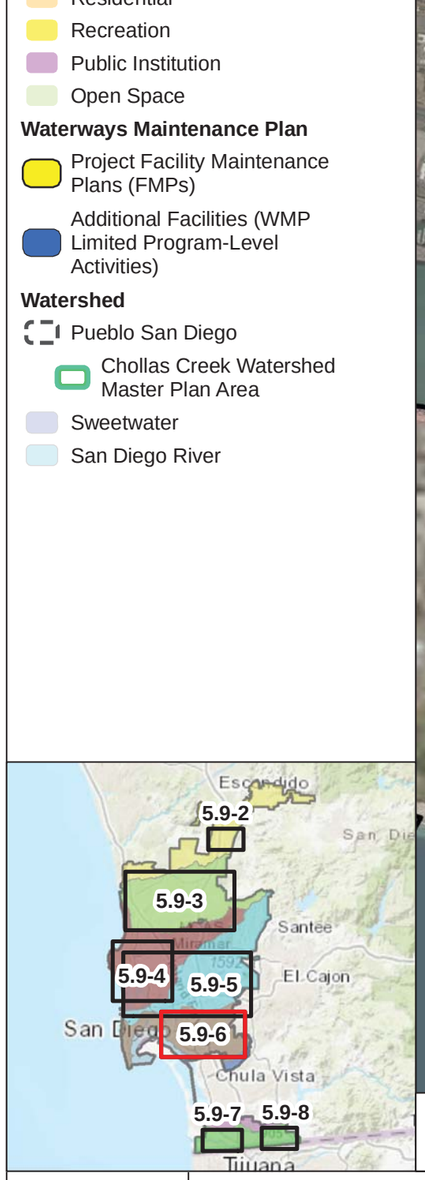
Watershed

Pueblo San Diego

Chollas Creek Watershed Master Plan Area

Sweetwater

San Diego River



SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

DUDEK

Noise Sensitive Receptors and Measurement Locations
Municipal Waterways Maintenance Plan EIR

Figure 5.9-6 - Pueblo San Diego and Sweetwater Watersheds

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

City of San Diego

Noise Analysis Area

Existing Noise Measurement Locations

Tijuana River

Sensitive Receptor Location

Residential

Recreation

Public Institution

Waterways Maintenance Plan

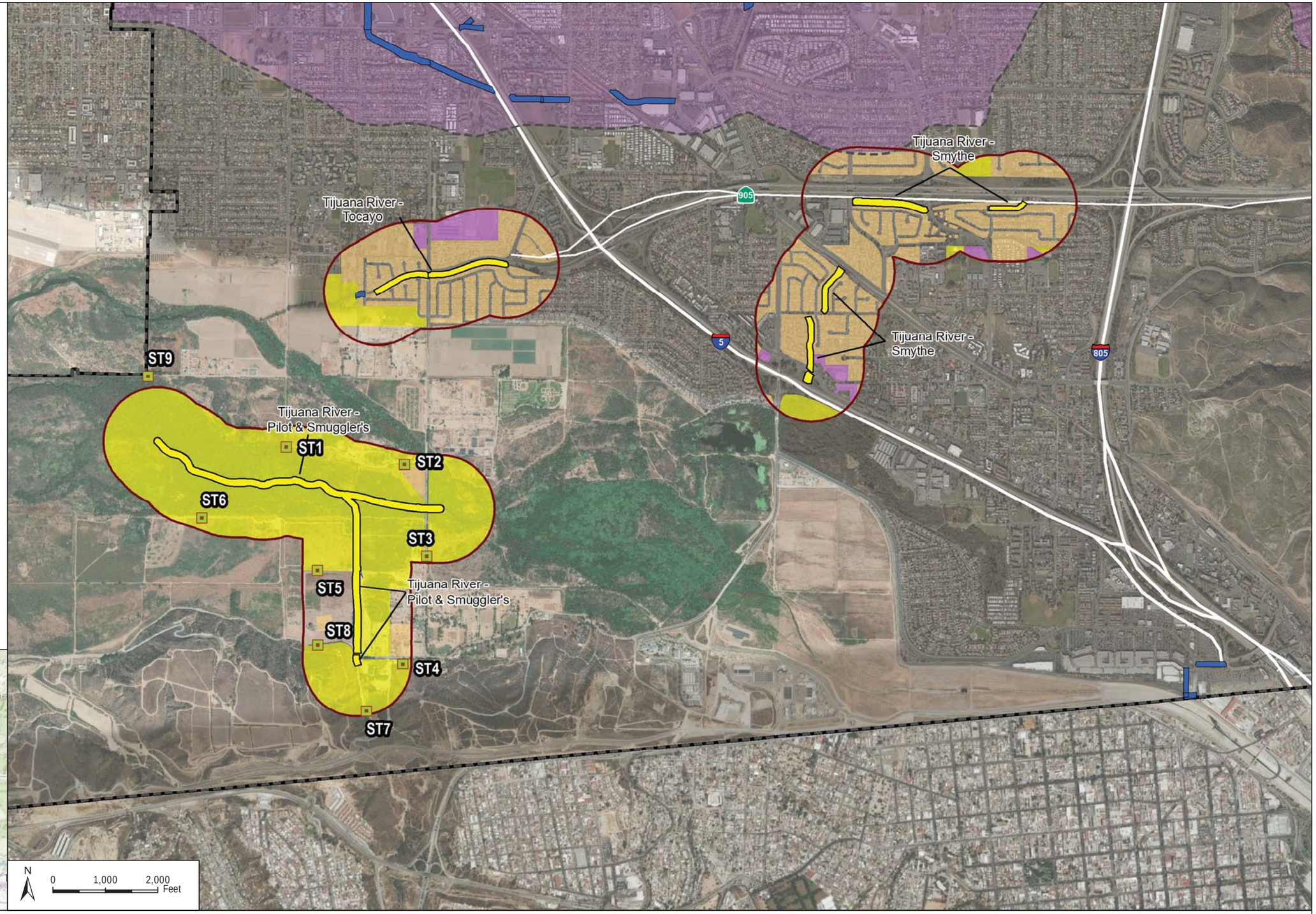
Project Facility Maintenance Plans (FMPs)

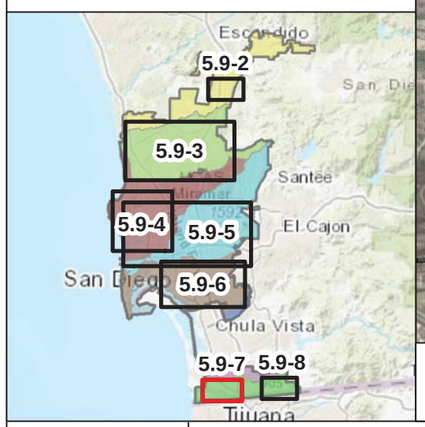
Additional Facilities (WMP Limited Program-Level Activities)

Watershed

Tijuana River Watershed

Otay





SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

DUDEK

Noise Sensitive Receptors and Measurement Locations
Municipal Waterways Maintenance Plan EIR

Figure 5.9-7 - Tijuana River Watershed (Sheet 1)

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

City of San Diego

Noise Analysis Area

Noise Measurement Locations

Sensitive Receptor Location

Residential

Recreation

Public Institution

Waterways Maintenance Plan

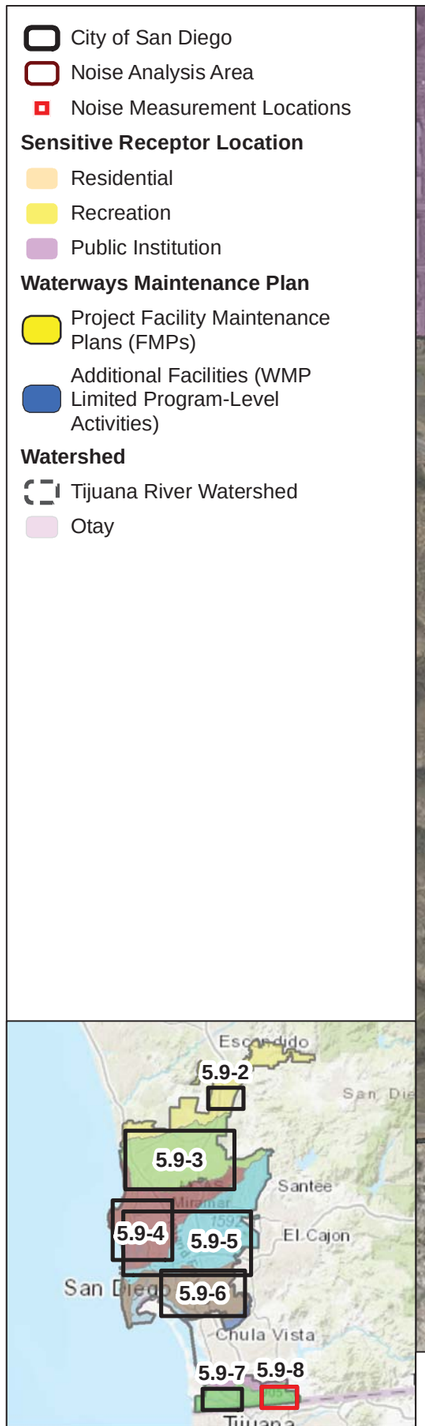
Project Facility Maintenance Plans (FMPs)

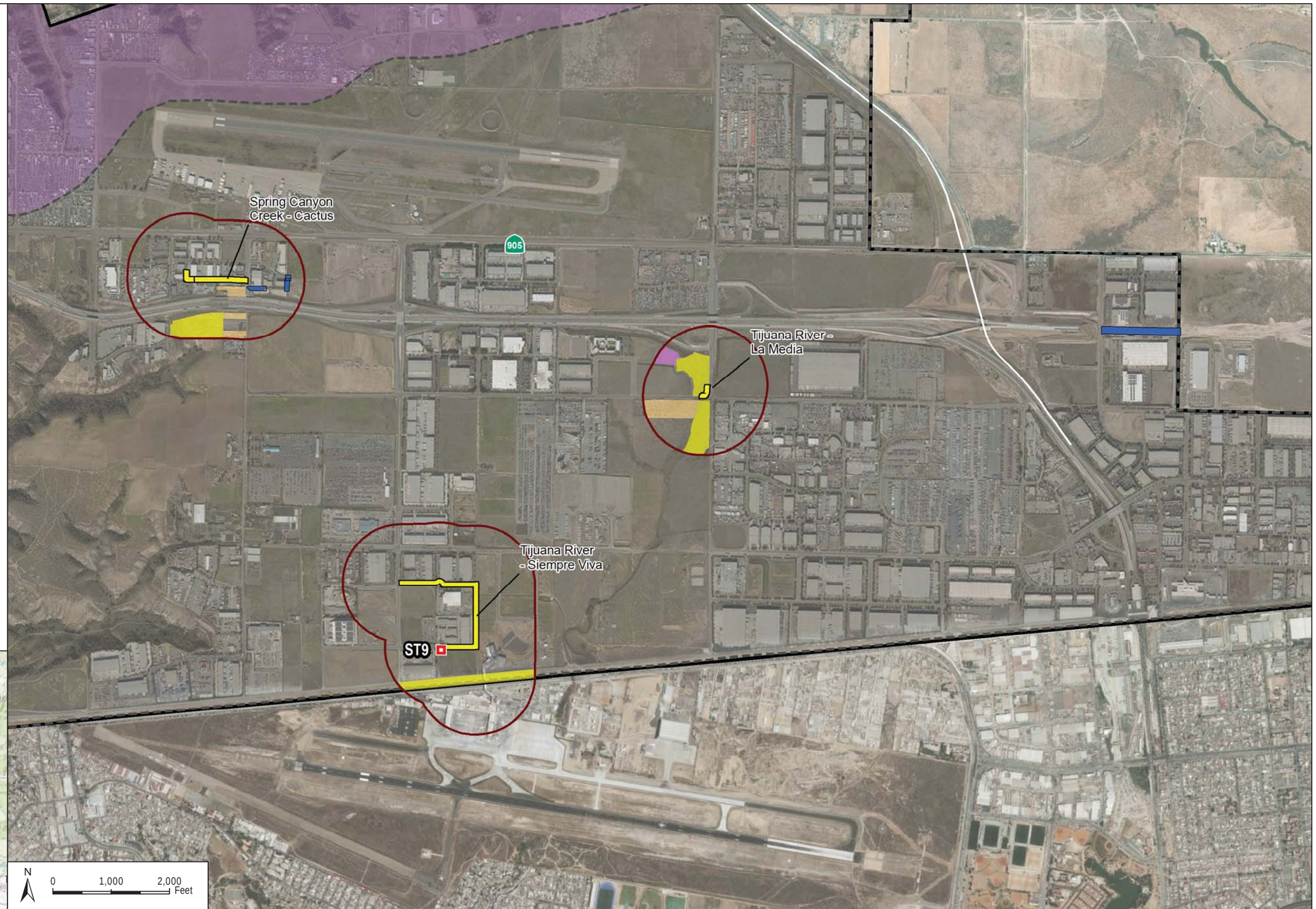
Additional Facilities (WMP Limited Program-Level Activities)

Watershed

Tijuana River Watershed

Otay





SOURCE: ESRI, 2016; SANDAG, 2016; USGS, 2012

DUDEK

Noise Sensitive Receptors and Measurement Locations
Municipal Waterways Maintenance Plan EIR

Figure 5.9-8 - Tijuana River Watershed (Sheet 2)

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

5.10 PALEONTOLOGICAL RESOURCES

5.10.1 INTRODUCTION

This section describes the existing paleontological resources of the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP); identifies the applicable regulatory framework; evaluates potential impacts associated with paleontological resources that would result from the proposed MWMP; identifies mitigation measures, if necessary, to reduce the level of impact associated with implementation of the proposed MWMP; and identifies the level of significance after any mitigation. Information used in this section is primarily based on the *Paleontological Resources Inventory Report for the Municipal Waterways Maintenance Plan* (Paleontological Resources Report), prepared by Dudek in November 2019 and included as Appendix H to this Environmental Impact Report (EIR). The Paleontological Resources Report describes the results of that inventory and analyzes the potential impacts of MWMP maintenance and repair activities at potential MWMP project facilities (69 facility groups, including all 66 proposed MWMP facility group FMPs) to determine their potential to impact paleontological resources. Using this analysis, this section provides a project-level analysis of proposed MWMP FMPs (66 facility groups) and program-level analysis of proposed MWMP programmatic activities.

Paleontological resources (i.e., fossils) are the remains and/or traces of prehistoric plant and animal life. Fossil remains, such as bones, teeth, shells, and leaves, are found in the geologic deposits within which they were originally buried. For the purposes of this discussion, paleontological resources can be thought of as including not only the actual fossil remains, but also the areas and geologic formations likely to contain those fossils.

In accordance with the City's guidelines for compliance with the *California Environmental Quality Act: Significance Determination Thresholds* (City of San Diego 2016), the City's Paleontology Guidelines (City of San Diego 2002), Land Development Manual, Appendix P, General Grading Guidelines for Paleontological Resources, the City's Land Development Code Section 142.0151 Paleontological Resources Requirements for Grading Activities (City of San Diego 2018), and the County of San Diego's (2009) *Guidelines for Determining Significance, Paleontological Resources*, and the California Environmental Quality Act (CEQA) Guidelines, Dudek performed a paleontological study of the program area in August 2019. The Paleontological Resources Inventory Report (Appendix H) presents the results of a paleontological investigation performed by Dudek for the program area, located in the City of San Diego, in San Diego County, California. The paleontological resources information provided in Appendix H is based on review of published geological maps covering the program area and a paleontological records search conducted by the San Diego Natural History Museum (SDNHM), which is included as Appendix A to EIR Appendix H.

5.10.2 EXISTING CONDITIONS

The City's municipal storm water system is distributed throughout the 342-square-mile metropolitan area. The system conveys storm water runoff from natural and developed areas to receiving waters. Major creeks and rivers are (from north to south) Los Peñasquitos Canyon Creek, Rose Canyon Creek, San Diego River, Alvarado Canyon Creek, Chollas Creek, Otay River, Nestor Creek, and Tijuana River. The City jurisdiction spans eight watersheds: San Dieguito River, Los Peñasquitos, Mission Bay, San Diego River, Pueblo San Diego, Sweetwater, Otay, and Tijuana River. The MWMP is located in the following California U.S. Geological Survey 7.5-minute topographic quadrangles: Del Mar, Escondido, Imperial Beach, La Jolla, La Mesa, National City, Otay Mesa, Point Loma, and Poway.

The program area lies within the western portion of the Peninsular Ranges Geomorphic Province, where older, generally plutonic and metamorphic bedrock geological units are overlain by younger, Cenozoic sedimentary deposits. The Peninsular Ranges were formed by uplift of plutonic igneous rock resulting from the subduction of the Pacific Plate underneath the North American Plate during the latter portion of the Mesozoic era (approximately 125 to 90 million years old) (Abbott 1999; USGS 2007).

Geologic rock units that underlie the area of potential effect (APE) are listed in Table 5.10-1, Paleontological Resource Sensitivity Criteria. As shown in Table 5.10-1, geologic rock units that underlie the MWMP APE include Artificial Fill; Alluvium, Slope Wash, and Undifferentiated Alluvium and Slope Wash Deposits; Bay Point Formation; Lindavista Formation; San Diego Formation; Sweetwater Formation; Pomerado Conglomerate; Mission Valley Formation; Stadium Conglomerate; Friars Formation; Scripps Formation; Ardath Shale; Intrusive Igneous Rocks; and Mesozoic Metasedimentary and Metavolcanic Rocks, Undivided. Following the City's Paleontological Guidelines and General Grading Guidelines for Paleontological Resources and the County of San Diego *Guidelines for Paleontological Resources*, each rock unit underlying the APE was subsequently assigned a paleontological resource sensitivity rating by the SDNHM during the records search conducted for the MWMP. The sensitivity definitions and ratings of these rock units are listed in Tables 5.10-1 and 5.10-2, respectively.

Table 5.10-1
Paleontological Resource Sensitivity Criteria

Resource Sensitivity/ Potential	Definition
High	High resource potential and high sensitivity are assigned to geologic formations known to contain paleontological localities with rare, well preserved, critical fossil materials for stratigraphic or paleoenvironmental interpretation, and fossils providing important information about the paleoclimatic, paleobiological and/or evolutionary history (phylogeny) of animal and plant groups. In general, formations with high resource potential are considered to have the highest potential to produce unique invertebrate fossil assemblages or unique vertebrate fossil remains and are, therefore, highly sensitive.
Moderate	Moderate resource potential and moderate sensitivity are assigned to geologic formations known to contain paleontological localities. These geologic formations are judged to have a strong, but often unproven, potential for producing unique fossil remains (Deméré and Walsh 1993).
Low	Low resource potential and low sensitivity are assigned to geologic formations that, based on their relatively young age and/or high-energy depositional history, are judged unlikely to produce unique fossil remains. Low resource potential formations rarely produce fossil remains of scientific significance and are considered to have low sensitivity. However, when fossils are found in these formations, they are often very significant additions to our geologic understanding of the area.
Marginal	Marginal resource potential and marginal sensitivity are assigned to geologic formations that are composed either of volcaniclastic (derived from volcanic sources) or metasedimentary rocks, but that nevertheless have a limited probability for producing fossils from certain formations at localized outcrops. Volcaniclastic rock can contain organisms that were fossilized by being covered by ash, dust, mud, or other debris from volcanoes. Sedimentary rocks that have been metamorphosed by heat and/or pressure caused by volcanoes or plutons are called metasedimentary. If the sedimentary rocks had paleontological resources within them, those resources may have survived the metamorphism and still be identifiable within the metasedimentary rock, but since the probability of this occurring is so limited, these formations are considered marginally sensitive.
No Potential	No resource potential is assigned to geologic formations that are composed entirely of volcanic or plutonic igneous rock, such as basalt or granite, and therefore do not have any potential for producing fossil remains. These formations have no paleontological resource potential (i.e., they are not sensitive).

Source: County of San Diego 2009.

Table 5.10-2
Paleontological Sensitivity of Geological Rock Units Underlying the MWMP APE

Geological Rock Units	Sensitivity Rating
Artificial Fill (Qaf)	No Potential
Holocene Alluvium, Slope Wash, and Undifferentiated Alluvium and Slope Wash Deposits (Qal, Qsw, Qal +Qsw)	Low
Bay Point Formation (Qbp)	High
Lindavista Formation (Qln, Qlb)	Moderate to High[1]
San Diego Formation (Tsd)	High
Sweetwater Formation (Tsw)	High
Pomerado Conglomerate (Tp)	Moderate to High[2]
Mission Valley Formation (Tmv)	High
Stadium Conglomerate (Tst)	High
Friars Formation (Tf)	High
Scripps Formation (Tsc)	High
Ardath Shale (Ta)	High
Cretaceous Intrusive Igneous Rocks (Kg)	Low
Mesozoic Metasedimentary and Metavolcanic Rocks, Undivided (Mzu)	Marginal to Moderate[3]

Source: Appendix A to EIR Appendix H.

1 The Lindavista Formation is considered to have high paleontological sensitivity in Tierrasanta and Mira Mesa and moderate paleontological sensitivity in all other areas of its geographic extent.

2 The Pomerado Conglomerate is considered to have high paleontological sensitivity in Scripps Ranch and Tierrasanta and moderate paleontological sensitivity in all other areas of its geographic extent.

3 The metavolcanic rocks are assigned marginal sensitivity and the metasedimentary rocks are assigned moderate sensitivity; however, due to lack of localities near the program area, the SDNHM assigned a low sensitivity rating to the geological unit.

Earthen-bottom MWMP facilities and their respective underlying paleontological sensitivity are identified in Appendix C to EIR Appendix H. Whether or not additional evaluation is required is also noted in Appendix C to EIR Appendix H.

5.10.2.1 Paleontological Records Search

A search of the paleontological records at the SDNHM was conducted to determine if any documented fossil collection localities occur in the program area. The SDNHM has 193 fossil localities from geological units within a quarter-mile radius of the program area. Of these localities, 16 are from geological units that are within a quarter-mile radius of the program area, but are not anticipated to be impacted by construction: the Eocene-age Torrey Sandstone and Delmar Formation sites (see Appendix A to EIR Appendix H). The remaining 177 localities are from the Pleistocene-age Bay Point Formation, the Pliocene to Pleistocene-age San Diego Formation, the

middle Eocene-age Sweetwater Formation, Mission Valley Formation, Friars Formation, Scripps Formation, and Ardath Shale.

5.10.2.2 Geologic Units Underlying the MWMP Program Area

Artificial Fill (Qaf)

The thickness of the artificial fill (map unit Qaf) mapped throughout the program area is variable. Due to the young (recent), human-made/placed nature of these deposits, artificial fill has no potential to produce scientifically significant paleontological resources because any recovered fossils are not in their original geographic, stratigraphic, and temporal context (City of San Diego 2016; County of San Diego 2009; Appendix A to EIR Appendix H).

Artificial fill underlies five of the MWMP facilities: Mission Bay – Mission Bay Drive, Mission Bay – Mission Bay High School (MBHS), San Diego River – Camino Del Rio, Soledad Canyon Creek – Sorrento Roselle 2, and SS-013792 – 1660 Hotel Circle North. The SDNHM does not have any fossil localities from deposits of artificial fill within a quarter-mile radius of the program area. Because artificial fill has been previously disturbed and may have been imported to the program area, any contained fossil remains have lost their original stratigraphic contextual data and are thus of little scientific value. For these reasons, artificial fill is assigned no paleontological sensitivity.

Alluvium, Slope Wash, and Undifferentiated Alluvium and Slope Wash Deposits (Qal, Qsw, and Qal + Qsw)

The Holocene (less than approximately 11,000 years old) alluvium (map unit Qal), slope wash (map unit Qsw), and undifferentiated alluvium and slope wash deposits (map unit Qal + Qsw) mapped throughout the program area along drainages and lower elevations are described by Kennedy (1975) as follows: Alluvium in the area consists primarily of poorly consolidated stream deposits of silt, sand, and cobble-sized particles derived from bedrock sources that lie within and to the east of the study area. The alluvium is intertongued with Holocene slope wash that generally mantles the lower valley slopes throughout the area. For this reason, alluvium and slope wash have not been differentiated in most areas.

Three-quarters of the total number of facilities are underlain by Holocene-age deposits (Appendix A to EIR Appendix H). Due to the young (recent) nature of these deposits, Holocene-age alluvium and slope wash has low potential to produce scientifically significant paleontological resources (City of San Diego 2016; County of San Diego 2009; Appendix A to EIR Appendix H).

Holocene alluvial deposits are generally less than 10,000 years old, and are assigned a low paleontological sensitivity based on their young geologic age and the lack of known fossil localities; however, these deposits may overlie sensitive units that could be impacted where the contact is relatively shallow.

Bay Point Formation (Qbp)

The Pleistocene Bay Point Formation (approximately 0.08 to 0.13 million years old [Ma]) (GEI 2017; Kennedy 1973; USGS 2007; Valentine 1959; Appendix A to EIR Appendix H) (map unit Qbp) consists of shallow marine and nonmarine deposits that are correlative with terrace deposits (Qt1-3 of Tan and Kennedy 1996; Qop6-7, and Qop2-4 Kennedy and Tan 2007). Named for deposits near Crown Point (formerly Bay Point), the formation is composed of poorly consolidated, pale brown fine- to medium-grained sandstones (Kennedy 1975; Tan and Kennedy 1996; Valentine 1959).

The Bay Point Formation has produced important invertebrate and vertebrate fossil localities along coastal San Diego (Deméré 1981; Hertlein and Grant 1939; Stephens 1929; Valentine 1959) and has high paleontological sensitivity (City of San Diego 2016; County of San Diego 2009; Appendix A to EIR Appendix H).The nearshore marine deposits of the Pleistocene-age (approximately 10,000 to 750,000 years old) Bay Point Formation underlie 18 MWMP facilities. More specifically, these deposits rest on the Nestor and Bird Rock terraces (approximately 120,000 and 80,000 years old, respectively), and are equivalent to units 6 and 7, old paralic deposits, of Kennedy and Tan (2008). The SDNHM has 33 fossil collection localities from the Bay Point Formation within a quarter-mile radius of the program area. These localities yielded trace fossils (e.g., sponge borings in shell and worm tubes) and fossilized impressions or remains of plants (e.g., magnolias and other vascular plants), marine invertebrates (e.g., foraminifers, bryozoans, chitons, snails, clams, mussels, oysters, scallops, ostracods, crabs, barnacles, sea urchins, and sand dollars), marine vertebrates (e.g., sharks, rays, and bony fish), and terrestrial vertebrates (e.g., birds, rodents, horses, and mammoths).

Lindavista Formation (Qln and Qlb)

The Pleistocene Lindavista Formation (approximately 0.7 to 1.5 Ma) (GEI 2017; Kennedy 1973; USGS 2007) (map units Qln and Qlb), represents nearshore marine, beach, and nonmarine depositional environments and is present throughout the program area, either mapped at the surface or underlying artificial fill or surficial alluvial deposits. The Lindavista Formation is considered to have high paleontological sensitivity in Tierrasanta and Mira Mesa and moderate paleontological sensitivity in all other areas of its geographic extent. Within the program area, the Lindavista Formation has moderate chance to produce scientifically significant paleontological resources (City of San Diego 2016; County of San Diego 2009; Appendix A to EIR Appendix H).

Fourteen of the MWMP facilities are underlain by the marine and/or non-marine terrace deposits of the early to middle Pleistocene-age approximately 0.5 to 1.5 Ma) Lindavista Formation (mapped by

Kennedy and Tan (2008) as Quaternary very old paralic deposits, various units). The SDNHM does not have any fossil collection localities from these deposits within a quarter-mile radius of the program area. The rare fossil localities in San Diego County have produced remains of nearshore marine invertebrates (e.g., snails, clams, scallops, barnacles, and sand dollars).

San Diego Formation (Tsd and Tsdss)

The Pliocene and Pleistocene (approximately 1.5-3 Ma) San Diego Formation (map units Tsd and Tsdss) consists of marine and nonmarine strata, and is named for deposits in the South Bay area of San Diego (Arnold 1906; Deméré 1983; GEI 2017). The San Diego Formation has produced numerous fossil traces, plants, invertebrates, and vertebrates and has high potential to produce scientifically significant paleontological resources (City of San Diego 2016; County of San Diego 2009; Appendix A to EIR Appendix H).

Marine sedimentary deposits of the late Pliocene to early Pleistocene-age (approximately 1.5 to 3 Ma) San Diego Formation underlie 15 of the MWMP sites. The SDNHM has 48 fossil collection localities from the San Diego Formation within a quarter-mile radius of the MWMP sites. These localities produced trace fossils (e.g., sponge borings, worm burrows, and coprolites) and fossilized impressions or remains of plants (e.g., coralline algae and vascular plants), marine invertebrates (e.g., bryozoans, brachiopods, snails, mussels, oysters, scallops, clams, tusk shells, shrimp, barnacles, crabs, starfish, sand dollars, and sea urchins), marine vertebrates (e.g., sharks, rays, bony fish, sea birds, eared seals, walruses, whales, and sea cows), and terrestrial vertebrates (e.g., rabbits and horses).

Sweetwater Formation (Tsw)

The late Eocene (approximately 37-42 Ma) Sweetwater Formation (map unit Tsw) is a terrestrial sedimentary unit found along coastal San Diego (Deméré and Walsh 1993; GEI 2017). The Sweetwater Formation has yielded remains of opossums, insectivores, and rodents, and has high potential to produce scientifically significant paleontological resources (City of San Diego 2016; County of San Diego 2009; Deméré and Walsh 1993; Walsh 1996; Appendix A to EIR Appendix H).

The river channel deposits of the middle Eocene-age (approximately 37 to 42 Ma) Sweetwater Formation has been tentatively identified underlying one MWMP facility in the Colina del Sol neighborhood of eastern San Diego. The outcrop occurs in an upfaulted block within the La Nacion Fault, and is mapped as the Mission Valley Formation by Kennedy and Tan (2008). The one SDNHM fossil collection locality from the Sweetwater Formation within a quarter-mile radius of the program area was recovered from this outcrop, and yielded several rodent teeth indicative of the Sweetwater Formation.

Pomerado Conglomerate (Tp)

The middle Eocene (approximately 42 Ma) Pomerado Conglomerate (map unit Tp) is a fluvial to nearshore marine sedimentary unit found along coastal San Diego (Deméré and Walsh 1993; GEI 2017; Kennedy and Peterson 1975; Kennedy and Tan 2007; Tan and Kennedy 1996; Walsh 1996). The Pomerado Conglomerate has produced extinct terrestrial mammals and marine mollusks and has high potential to produce scientifically significant paleontological resources within the Scripps Ranch and Tierrasanta areas of San Diego, and moderate paleontological sensitivity in all other areas of its geographic extent (City of San Diego 2016; County of San Diego 2009; Deméré and Walsh 1993; Walsh 1996; Appendix A to EIR Appendix H).

Mission Valley Formation (Tmv)

The middle Eocene (approximately 42 Ma) Mission Valley Formation (map unit Tmv) is a marine sedimentary unit found along coastal San Diego (GEI 2017; Kennedy and Peterson 1975; Kennedy and Tan 2007; Tan and Kennedy 1996). The Mission Valley Formation has produced numerous terrestrial vertebrates and marine invertebrates and vertebrates and has high potential to produce scientifically significant paleontological resources (City of San Diego 2016; County of San Diego 2009; Deméré and Walsh 1993; Walsh 1996; Appendix A to EIR Appendix H).

The SDNHM has two fossil collection localities from the Mission Valley Formation within a quarter-mile radius of the program area, which yielded fossilized remains of terrestrial mammals (e.g., marsupials, insectivores, bats, primates, and rodents). Elsewhere in San Diego County, marine deposits of the Mission Valley Formation have produced abundant and well-preserved remains of marine invertebrates (e.g., foraminifers, clams, snails, crustaceans, and sea urchins) and marine vertebrates (e.g., sharks, rays, and bony fish).

Stadium Conglomerate (Tst)

The middle Eocene (approximately 42–44 Ma) Stadium Conglomerate (map unit Tst) is a terrestrial sedimentary unit found along coastal San Diego (GEI 2017; Kennedy and Peterson 1975; Kennedy and Tan 2007; Tan and Kennedy 1996). The Stadium Conglomerate has yielded significant fossils throughout its geographic extent in San Diego County and has moderate to high potential to produce scientifically significant paleontological resources in the upper member and high potential to yield scientifically significant paleontological resources in the lower member (County of San Diego 2009; Appendix A to EIR Appendix H). The City (2016) assigns the Stadium Conglomerate high paleontological sensitivity.

Non-marine deposits of the middle Eocene-age (approximately 42 to 44 Ma) Stadium Conglomerate underlie 14 of the MWMP facilities. The SDNHM does not have any fossil collection localities from

the Stadium Conglomerate within a quarter-mile radius of the program area. The upper member of the Stadium Conglomerate has produced fossilized impressions or remains of plants (e.g., petrified wood), marine invertebrates (e.g., foraminifers and mollusks), and sparse remains of fossil mammals (e.g., opossums, insectivores, primates, rodents, carnivores, rhinoceroses, and artiodactyls). While the upper and lower members of the Stadium Conglomerate have been assigned distinct paleontological resource sensitivities (high to moderate, and high, respectively), these deposits should be treated as having a high fossil potential when it is not possible to distinguish the two members.

Friars Formation (Tf)

The middle Eocene (approximately 44–47 Ma) Friars Formation (map unit Tf) is a terrestrial sedimentary unit found along coastal San Diego. The formation is named for strata located along the north side of Mission Valley, near Friars Road. The Friars Formation has high potential to produce scientifically significant paleontological resources (City of San Diego 2016; County of San Diego 2009; Appendix A to EIR Appendix H).

The fluvial deposits of the middle Eocene-age (approximately 46 to 47 Ma) Friars Formation underlie four MWMP sites (Appendix 3 of Appendix H). The SDNHM has 18 fossil collection localities from the Friars Formation within a quarter-mile radius of the MWMP sites. The Friars Formation is assigned a high paleontological sensitivity on the basis of the recovery of diverse and well-preserved assemblages of both marine invertebrates and terrestrial vertebrates from these deposits.

Scripps Formation (Tsc)

The middle Eocene (approximately 44–47 Ma) Scripps Formation (map unit Tsc) is a marine sedimentary unit found along coastal San Diego. Part of the La Jolla Group, it is named for strata located north of the Scripps Institute of Oceanography pier on the north of Black's Canyon (GEI 2017; Geolex 2017; Kennedy and Moore 1971). The Scripps Formation has produced trace, plant, marine invertebrate, marine vertebrate fossil remains and has high potential to produce scientifically significant paleontological resources (City of San Diego 2016; County of San Diego 2009; Appendix A to EIR Appendix H).

Ardath Shale (Ta)

The marine outer shelf deposits of the early middle Eocene-age (approximately 47 to 48 Ma) Ardath Shale (map unit Ta) underlie a single MWMP facility (Appendix H). The SDNHM has 11 fossil collection localities from the Ardath Shale within a quarter-mile radius of the program area. These localities produced trace fossils (e.g., borings) and fossilized impressions or remains of plants (e.g., flowering plants), marine invertebrates (e.g., foraminifers, corals, bryozoans, worms, brachiopods,

snails, clams, mussels, oysters, scallops, tusk shells, crabs, sea stars, and sea urchins), and marine vertebrates (e.g., bony fish). The Ardath Shale has been assigned a high paleontological sensitivity, as indicated by the diverse and well-preserved fossil assemblages that have been recovered from this geologic unit.

Intrusive Igneous Rocks (Kg, Kgu, Kt)

Cretaceous-age (approximately >66 Ma) igneous bedrock (map units Kg, Kgu, Kt) in this area is mid-Cretaceous in age and described by Kennedy (1975) as granitic rocks of the Southern California Batholith (USGS 2007). Two MWMP facilities are underlain by these rocks (Appendix H). The SDNHM does not have any fossil localities from intrusive igneous rocks within a quarter-mile radius of the program area. Plutonic igneous rocks do not preserve fossils because they crystallize at extremely high temperatures and pressures several miles below the Earth's surface, so these rocks are assigned no paleontological sensitivity. Igneous rocks have no paleontological resource potential (County of San Diego 2009; Appendix A to EIR Appendix H).

Mesozoic Metasedimentary and Metavolcanic Rocks, Undivided (Mzu, Jsp)

The Mesozoic metasedimentary and metavolcanic bedrock (map unit Mzu) are late Jurassic to early Cetaceous (approximately 125–145 Ma) in age and are the oldest geological unit within the program area. These rocks are located in the northern portion of the program area. Crystalline basement rocks of early Cretaceous age (approximately 125 to 145 million years old), mapped as Mesozoic metasedimentary and metavolcanic rocks, undivided, by Kennedy and Tan (2007), underlie one MWMP facility. Metasedimentary deposits mapped as the Santiago Peak Volcanics (map unit Jsp) within San Diego County have a marginal sensitivity, due to the minor fossil potential within these specific rock types (County of San Diego 2009; Appendix A to EIR Appendix H).

The SDNHM does not have any fossil localities from this undivided unit within a quarter-mile radius of the program area. The metavolcanic portions of this unit rarely preserve fossils due to the high temperatures associated with their formation; some of the volcanic breccias, however, have produced petrified wood, and are assigned a marginal sensitivity (Deméré and Walsh 1993). The metasedimentary portions have the potential to yield fossils, including siliceous microfossils (e.g., radiolarians) and marine macroinvertebrates (e.g., clams and belemnites), and are assigned a moderate paleontological sensitivity. The lack of nearby localities from these deposits indicates that fossil recovery is unlikely, so the geologic unit as a whole is assigned a low paleontological sensitivity.

5.10.3 REGULATORY SETTING

Federal

The Paleontological Resources Preservation Act requires the secretaries of the Interior and Agriculture to manage and protect paleontological resources on federal land using scientific principles and expertise. The Omnibus Public Lands Act–Paleontological Resources Preservation (OPLA–PRP) includes specific provisions addressing management of these resources by the Bureau of Land Management, the National Park Service, the Bureau of Reclamation, the U.S. Fish and Wildlife Service, all of the Department of the Interior, and the Forest Service of the Department of Agriculture.

OPLA–PRP affirms the authority for many of the policies that the federal land-managing agencies already have in place for the management of paleontological resources, such as issuing permits for collecting paleontological resources, curation of paleontological resources, and confidentiality of locality data. The OPLA–PRP only applies to federal lands and does not affect private lands. It provides authority for the protection of paleontological resources on federal lands, including criminal and civil penalties for fossil theft and vandalism. As directed by the act, the federal agencies are in the process of developing regulations, establishing public awareness and education programs, and inventorying and monitoring federal lands.

State

State CEQA Guidelines require that all private and public activities not specifically exempted be evaluated against the potential for environmental damage, including effects to paleontological resources. Paleontological resources are recognized as part of the environment under the CEQA Guidelines.

Local

City of San Diego Municipal Code

Chapter 14, Article 2, Division 1 of the City of San Diego Municipal Code was updated in March 2018 to include the following for paleontological resources:

Land Development Code Section 142.0151: Paleontological Resources Requirements for Grading Activities

a) Paleontological resources monitoring shall be required in accordance with the General Grading Guidelines for Paleontological Resources in the Land Development Manual for any of the following:

(1) Grading that involves 1,000 cubic yards or greater, and 10 feet or greater in depth, in a High Resource Potential Geologic Deposit/Formation/Rock Unit; or

(2) Grading that involves 2,000 cubic yards or greater, and 10 feet or greater in depth, in Moderate Resource Potential Geologic Deposit/Formation/Rock Unit; or

(3) Grading on a fossil recovery site or within 100 feet of the mapped location of a fossil recovery site.

b) If paleontological resources, as defined in the General Grading Guidelines for Paleontological Resources, are discovered during grading, notwithstanding [Land Development Code] Section 142.0151(a), all grading in the area of discovery shall cease until a qualified paleontological monitor has observed the discovery, and the discovery has been recovered in accordance with the General Grading Guidelines for Paleontological Resources.

City of San Diego Paleontology Guidelines

Since it is the underlying formation and geologic rock units that contain the fossil remains, resource sensitivity/potential levels are rated for individual geologic formations. The resource sensitivity levels and potential ratings are adapted from the resource sensitivity levels and potential ratings described by the City (City of San Diego 2002) (see Table 5.10-1).

5.10.4 THRESHOLDS OF SIGNIFICANCE

The City has developed and updated its thresholds (City of San Diego 2016) and guidelines (City of San Diego 2002) to assist City staff, project proponents, and the public in determining whether, based on substantial evidence, a project may have a significant effect on the environment under Section 21082.2 of CEQA, and therefore whether the environmental impact requires mitigation. The following significance criterion was used to evaluate the plan's impact on paleontological resources:

Issue 1: Would the project require over 1,000 cubic yards of excavation in a high resource potential geologic deposit/formation/rock unit, or over 2,000 cubic yards of excavation in a moderate resource potential geologic deposit/formation/rock unit?

5.10.5 APPROACH AND METHODOLOGY

Dudek reviewed existing maps, records, and reports to ensure that the MWMP avoided potential impacts to previously recorded paleontological resources. The records search conducted for paleontological resources included all potential MWMP project facilities (69 facility groups). The paleontological sensitivity rating for all facilities can be found in EIR Appendix H (Appendix 3 to Appendix A). Facilities were further sorted by earthen-bottom (including partially earthen) or concrete-lined to evaluate impacts at individual facilities. Those facilities that have a completely

manufactured/concrete substrate were categorically excluded from consideration, since maintenance and repair activities would not likely encounter or impact native soils or sediments. Those facilities with earthen-bottom substrate and/or earthen banks within all or a portion of the facility are the focus of the impact analysis herein.

The activities proposed in the MWMP were developed with the goal of avoiding and minimizing potential impacts related to paleontological resources. As such, the following Environmental Protocols (EPs) are identified as part of the proposed MWMP because these specific proposed activities serve to reduce such impacts.

Environmental Protocols

EP-PAL-1 **Paleontological Resource Compliance.** Pursuant to Land Development Code (LDC) Section 142.0151, the City of San Diego (City) Transportation & Storm Water Department (TSW) shall verify grading quantities and geologic formation sensitivity for all maintenance and repair activities and apply the appropriate requirements for paleontological monitoring in accordance with the General Grading Guidelines for Paleontological Resources in the City's Land Development Manual. Geologic formation sensitivity is provided in Table 5.10-3, Paleontological Sensitivity of Earthen-Bottom Facilities. Regulatory compliance for maintenance and repair activities would be ensured through notes on plans and/or substantial conformance review documentation.

5.10.6 IMPACTS

As described in Chapter 4, Project Description, of this EIR, the MWMP includes a description of maintenance and repair activities, and supporting implementation methods. The majority of these activities are routine and are anticipated to occur in conformance with specific FMPs included in the MWMP (Appendix A). Routine refers to typical activities that occur on a regular, ongoing basis and are associated with maintaining storm water infrastructure. However, additional activities not identified in an FMP may be required and may occur anywhere within the City's storm water conveyance system.

Potential site-specific impacts associated with implementation of MWMP activities and methods as identified in the FMPs are described below under "Project-Level Analysis (FMPs)." As further detailed in Chapter 4, Project Description, MWMP activities consist of maintenance and repair activities. Maintenance activities include vegetation and invasive plant species management, sediment/debris removal, structural/debris/trash-fence clearing, and culvert clearing. Repair activities include concrete (minor and major) and bank repair, and structural/debris/trash-fence

repair. All proposed FMPs have been evaluated for potential paleontological impacts in the Paleontological Resources Report (Appendix H).

Potential impacts associated with implementation of additional MWMP activities and methods (i.e., minor maintenance, changed conditions/new or substantially amendment FMPs, compensatory mitigation sites, and emergency maintenance) are identified under Section 5.10.7, "Program-Level Analysis (Other MWMP Activities)." These impacts are analyzed to the extent feasible at this time; however, additional project-level CEQA analysis and/or new or amended permits may be required prior to implementation.

Issue 1: Would the project require over 1,000 cubic yards of excavation in a high resource potential geologic deposit/formation/rock unit, or over 2,000 cubic yards of excavation in a moderate resource potential geologic deposit/formation/rock unit?

Project-Level Analysis (FMPs)

Under the City's *California Environmental Quality Act: Significance Determination Thresholds* (City of San Diego 2016), specific policies have been created to reduce impacts to paleontological resources. The City's Paleontology Guidelines and Land Development Manual Appendix P, General Grading Guidelines for Paleontological Resources, provide a Paleontological Monitoring Determination Matrix that identifies which formational soils are considered to have a high, moderate, low, or zero sensitivity rating (City of San Diego 2002). The determination matrix also addresses certain conditions where monitoring is required when the thresholds are not met. Monitoring is always required when grading on a fossil recovery site or near a fossil recovery site in the same geologic deposit/formation/rock unit as the project site (or facility), as indicated on the Kennedy Maps. Monitoring may be required for shallow grading (i.e., less than 10 feet) when a site has previously been graded and/or unweathered geologic deposits/formations/rock units are present at the surface. Monitoring is not required when grading documented or undocumented artificial fill (City of San Diego 2016).

Geological mapping indicates that the MWMP study area is underlain by Artificial Fill; Alluvium, Slope Wash, and Undifferentiated Alluvium and Slope Wash Deposits; Bay Point Formation; San Diego Formation; Sweetwater Formation; Pomerado Conglomerate; Mission Valley Formation; Stadium Conglomerate; Friars Formation; Scripps Formation; Ardath Shale; Intrusive Igneous Rocks; and Mesozoic Metasedimentary and Metavolcanic Rocks, Undivided. These geologic units have produced numerous plant and animal fossils in the region; therefore, these units should be considered to have high potential to contain significant paleontological resources. Based on the records search results, MWMP study area has low to high potential to produce paleontological resources during maintenance activities.

A paleontological records search performed by the SDNHM did not identify any known fossil localities within potential MWMP project facilities (Appendix H). However, 193 fossil localities are located within a one-quarter-mile radius of potential MWMP project facilities. Of these, 177 fossil localities are from similar deposits to those that underlie the study area and have yielded Pleistocene- through Eocene-age fossils throughout the City, but they do not underlie any of MWMP facilities and are not anticipated to be impacted by MWMP-related activities within earthen-bottom facilities. As previously stated regarding concrete maintenance and repair activities, the minor amount of grading required for maintenance in concrete-lined channels is not anticipated to exceed the significance thresholds outlined by the City and are categorically exempt (City of San Diego 2016).

Determining the paleontological sensitivity of potential MWMP project facilities outlined in Appendix C is based on underlying geology (both surficial and subsurficial); proximity of known paleontological localities as determined through the paleontological records searches (Appendix H); the potential for original, as-built excavations within the channel to impact geological units with moderate to high paleontological sensitivity; and proposed grading activities.

Table 5.10-3 identifies all earthen-bottom potential MWMP project facilities and their respective low to high paleontological sensitivity rating. Prior to the start of an MWMP activity in an earthen-bottom facility, activities would be reviewed along with Table 5.10-3 to determine if additional avoidance or minimization measures should be implemented. Project facilities shaded yellow have little to no sensitivity for paleontological resources and no further action would be required. Project facilities shaded green have a heightened sensitivity for paleontological resources, and in the event that excavation quantities exceed the City's established thresholds in these sensitive locations, implementation of **EP-PAL-1**, pursuant to Land Development Code Section 142.0151, and Land Development Manual Appendix P would ensure that impacts would be **less than significant** and no mitigation would be required.

Table 5.10-3 includes a column indicating the MWMP Appendix (A-1 through A-5) where more information can be found. The proposed MWMP project facilities have drafted FMPs and are included in Appendix A-1 (channels and ditches), A-2 (basins), and A-3 (structures). Facilities listed as Appendix A-5 are not currently proposed as MWMP projects. Programmatic activities may occur throughout the City and therefore may include project facilities (those with an FMP in Appendices A-1 through A-3), segments with no FMPs (Appendix A-5), or other areas in the City.

5.10.7 PROGRAM-LEVEL ANALYSIS (OTHER MWMP ACTIVITIES)

Programmatic activities would include minor maintenance activities, changed conditions or new/substantially amended FMPs, new compensatory mitigation sites (see Section 5.3, Biological

Resources), and emergency maintenance or repair. Under the MWMP, these additional programmatic activities are subject to the review and approval processes outlined in the MWMP.

With the exception of minor maintenance, all other programmatic activities within earthen-bottom facilities have the possibility of discovering or unearthing paleontological resources. The un-highlighted rows in Table 5.10-3 are earthen-bottom facilities for which specific FMPs have not been prepared; however, future programmatic activities, such as emergency maintenance or the preparation of a new FMP, may occur at these facilities. Future programmatic activities would be reviewed for substantial conformance with this EIR, including Table 5.10-3, and if applicable, the identified project-level mitigation measures would be implemented to potentially reduce programmatic impacts to below a level of significance.

If programmatic activities outside of the facilities listed in Table 5.10-3 occur in areas found to support moderate or high sensitivity resource conditions and the activity involves excavation in excess of established quantities in sensitive locations, implementation of **EP-PAL-1**, pursuant to Land Development Code Section 142.0151 and Land Development Manual Appendix P, would ensure that impacts would remain **less than significant** and no mitigation measures would be required.

5.10.8 SIGNIFICANCE OF IMPACT

With implementation of **EP-PAL-1**, pursuant to Land Development Code Section 142.0151, Land Development Manual Appendix P, impacts to earthen-bottom facilities due to project or programmatic activities, where excavation would exceed the City's thresholds in sensitive areas, would result in **less-than-significant** impacts, and no mitigation measures would be required.

5.10.9 MITIGATION MEASURES

No mitigation measures would be required, because potential impacts to paleontological resources associated with the proposed MWMP would be **less than significant**.

5.10.10 SIGNIFICANCE AFTER MITIGATION

Under CEQA, impacts related to paleontological resources for project- and program-level facilities would be **less than significant** with implementation of **EP-PAL-1**.

Table 5.10-3
Paleontological Sensitivity in Earthen-Bottom Facilities

Facility No.	Facility Group Name	MWMP Appendix	Acronym in SDNHM Records Search	Sheet No.	Substrate	Paleo Sensitivity	Further Evaluation Required?	
Los Peñasquitos Watershed								
2-01-000	Los Peñasquitos Canyon Creek - Sorrento Valley	A5	LosPen_SorVal	2	Earthen	Low	No	Based on Geology
2-01-120	Los Peñasquitos Lagoon – Industrial	A1	PenUnTri_Ind	2	Earthen	Low to High	Yes	Based on Geology
2-01-200	Los Peñasquitos Canyon Creek - Black Mountain	A1	LosPenUnTri_BlaMou1	2	Earthen	Low	No	Based on Geology
2-01-210	Los Peñasquitos Canyon Creek - Black Mountain	A1	LosPenUnTri_BlaMou2	2	Earthen	Low	No	Based on Geology
2-01-900	Los Peñasquitos Canyon Creek - 5-805 Basin	A2	LosPen_5-805	3	Earthen	Low to High	Yes	If Thresholds Exceeded
2-03-000	Soledad Canyon Creek – Roselle	A1	Sol_Ros1	3	Earthen	Low	No	Based on Geology
2-03-004	Soledad Canyon Creek - Sorrento	A5	SorValRd	1	Earthen	Low to High	Yes	If Thresholds Exceeded
2-03-006	Soledad Canyon Creek - Sorrento	A5	SorValRd	2	Earthen	Low	No	Based on Geology
2-03-012	Carroll Canyon Creek - Carroll	A1	CarCan_CarCan	3	Earthen & Concrete	Low	No	Based on Geology
2-03-150	Soledad Canyon Creek - Dunhill	A1	SolUnTri_Dun	3	Earthen	Low	No	Based on Geology
Mission Bay Watershed								
3-00-120	Torrey Pines – Torrey	A1	Scr_TorPin	4	Earthen	Low to High	Yes	If Thresholds Exceeded
3-00-150	Alta La Jolla - Vickie	A2	Vickie - 1	5	Earthen	Low to High	Yes	If Thresholds Exceeded
3-02-101	Mission Bay – Mission Bay High School (MBHS)	A1	MisBayUnTri_MBHS	5	Earthen	None	No	Based on Geology
3-02-130	Mission Bay - Mission Bay Drive	A1	MisBayUnTri_MBD	5	Earthen	None	No	Based on Geology
3-03-901	Miramar – Engineer	A1	MisBayUnTri_Eng	5	Earthen & Concrete	Moderate	Yes	If Thresholds Exceeded
3-04-101	Tecolote Creek - Morena	A5	TecUnTri_Mor	8	Earthen	Low to High	Yes	If Thresholds Exceeded
3-04-160	Tecolote Creek - Genesee	A1	TecUnTri_Gen	5	Earthen	Low	No	Based on Geology
San Diego River Watershed								
4-01-103	San Diego River - Nimitz	A1	SanUnTri_Nim1	8	Earthen	High	Yes	If Thresholds Exceeded
4-01-107	San Diego River - Nimitz	A1	SanUnTri_Nim3	8	Earthen	High	Yes	If Thresholds Exceeded
4-04-000	Murphy Canyon Creek – Stadium	A1	MurCan_Sta1	7	Earthen	Low	No	Based on Geology
4-04-008	Murphy Canyon Creek – Stadium	A5	MurCan_MurCan2	7	Earthen	Low to High	Yes	If Thresholds Exceeded
4-07-021	Alvarado Canyon Creek – Alvarado	A1	AlvCyn_Alv1	7	Earthen & Concrete	Low to High	Yes	If Thresholds Exceeded
4-08-014	Norfolk Canyon Creek – Fairmount	A1	NorCan_Fai3	7	Earthen	High	Yes	If Thresholds Exceeded
4-08-105	Norfolk Canyon Creek – Fairmount	A1	NorCyn_Baja	7	Earthen & Concrete	High	Yes	If Thresholds Exceeded
4-08-150	Norfolk Canyon Creek - Fairmount	A5	NorCan_Ald	7	Earthen	High	Yes	If Thresholds Exceeded
Pueblo San Diego Watershed								
5-02-140	Maple Canyon Creek - Maple	A2	Maple - 1	8	Earthen	High	Yes	If Thresholds Exceeded
5-02-151	Washington Canyon Creek - Washington	A1	WasCan_Was1	8	Earthen	Moderate to High	Yes	If Thresholds Exceeded
5-02-162	Mission Hills Canyon Creek - Titus	A1	MisHilCan_Tit	8	Earthen	Moderate to High	Yes	If Thresholds Exceeded
5-03-901	San Diego Bay - 28th St	A1	SanBayUnTri_28th	9	Earthen	High	Yes	If Thresholds Exceeded

Table 5.10-3
Paleontological Sensitivity in Earthen-Bottom Facilities

Facility No.	Facility Group Name	MWMP Appendix	Acronym in SDNHM Records Search	Sheet No.	Substrate	Paleo Sensitivity	Further Evaluation Required?	
5-04-004	Chollas Creek - National	A1	Cho_Nat	10	Earthen & Concrete	Low	No	Based on Geology
5-04-048	Chollas Creek - Rolando	A1	Cho_Rol2	9	Earthen	Low	No	Based on Geology
5-04-101	Chollas Creek - Martin	A1	Cho_UnTri_Martin	10	Earthen & Concrete	High	Yes	If Thresholds Exceeded
5-04-163	Chollas Creek - J St	A1	Cho_UnTri_JSt	10	Earthen	High	Yes	If Thresholds Exceeded
5-04-220	Auburn Creek - Home	A1	Aub_Hom1	9	Earthen	Low	No	Based on Geology
5-04-224	Auburn Creek - Home	A1	Aub_Hom2	9	Earthen	Low	No	Based on Geology
5-04-229	Auburn Creek - Home	A5	Aub_Hom4	9	Earthen & Concrete	Low	No	Based on Geology
5-04-231	Auburn Creek - Home	A1	Aub_Hom5	9	Earthen & Concrete	Low to High	Yes	If Thresholds Exceeded
5-04-239	Auburn Creek - Wightman	A1	Aub_Wig1	9	Earthen & Concrete	Low to High	Yes	If Thresholds Exceeded
5-04-241	Auburn Creek - Wightman	A1	Aub_Wig2	9	Earthen & Concrete	Low to High	Yes	If Thresholds Exceeded
5-04-245	Auburn Creek - Oakcrest	A5	Aub_Oak	9	Earthen	Moderate	Yes	If Thresholds Exceeded
5-04-262	Chollas Creek - Megan	A1	Cho_UnTri_Megan2	9	Earthen	High	Yes	If Thresholds Exceeded
5-05-006	South Chollas Creek – Southcrest	A1	SouCho_Alp	10	Earthen & Concrete	Low to High	Yes	If Thresholds Exceeded
5-05-008	South Chollas Creek – Southcrest	A1	SouCho_OceVie	10	Earthen & Concrete	Low to High	Yes	If Thresholds Exceeded
5-05-019	South Chollas Creek - Euclid	A5	SouCho_Euc1	10	Earthen	Low to High	Yes	If Thresholds Exceeded
5-05-035	South Chollas Creek - Federal	A1	SouCho_Fed1	9	Earthen & Concrete	High	Yes	If Thresholds Exceeded
5-05-205	South Chollas Creek Encanto Branch - Castana	A1	SouChoEnc_Cas	10	Earthen & Concrete	High	Yes	If Thresholds Exceeded
5-05-304	South Chollas Creek Encanto Branch - Imperial	A5	SouChoEnc_Imp1	10	Earthen	Low	No	Based on Geology
5-05-603	South Chollas Creek Encanto Branch - Jamacha	A1	SouChoEnc_Jam1	10	Earthen	Low to High	Yes	If Thresholds Exceeded
5-05-606	South Chollas Creek Encanto Branch - Jamacha	A5	SouChoEnc_Jam2	10	Earthen	Low to High	Yes	If Thresholds Exceeded
5-05-610	South Chollas Creek Encanto Branch - Jamacha	A5	SouChoEnc_Jam3	10	Earthen	High	Yes	If Thresholds Exceeded
5-05-702	South Chollas Creek Encanto Branch - Jamacha	A5	SouChoEncUnTri_Lob	10	Earthen	High	Yes	If Thresholds Exceeded
5-05-802	South Chollas Creek Encanto Branch – Jamacha	A5	SouChoEncUnTri_Cad	10	Earthen	High	Yes	If Thresholds Exceeded
5-06-025	Paleta Creek – Solola	A5	Par_Cer	10	Earthen	Low to High	Yes	If Thresholds Exceeded
Otay Watershed								
5-22-008	Nestor Creek - Nestor	A1	Nes_Ced1	11	Earthen	Low	No	Based on Geology
5-22-016	Nestor Creek - Nestor	A1	Nes_Cer	11	Earthen	Low	No	Based on Geology
5-22-023	Nestor Creek - Nestor	A1	Nes_Gro1	11	Earthen	Low to High	Yes	If Thresholds Exceeded

Table 5.10-3
Paleontological Sensitivity in Earthen-Bottom Facilities

Facility No.	Facility Group Name	MWMP Appendix	Acronym in SDNHM Records Search	Sheet No.	Substrate	Paleo Sensitivity	Further Evaluation Required?	
5-22-028	Nestor Creek – Nestor	A1	Nes_30th1	11	Earthen & Concrete	High	Yes	If Thresholds Exceeded
5-22-110	Nestor Creek - Nestor	A1	NesUnTri_Out	11	Earthen	High	Yes	If Thresholds Exceeded
Tijuana River Watershed								
6-01-020	Tijuana River - Pilot & Smuggler's	A1	Tij_Pilot	11	Earthen	Low to High	Yes	If Thresholds Exceeded
6-01-100	Tijuana River - Pilot & Smuggler's	A1	SmuGul_SmuGul	11	Earthen	Low	No	Based on Geology
6-02-115	Tijuana River - Tocayo	A5	TijUnTri_Toc1	11	Earthen & Concrete	High	Yes	If Thresholds Exceeded
6-03-135	Tijuana River - Smythe	A1	TijUnTri_ViaEnc1	13	Earthen	Low	No	Based on Geology
6-03-147	Tijuana River - Smythe	A1	TijUnTri_Smy	11	Earthen	High	Yes	If Thresholds Exceeded
6-05-110	Tijuana River - Siempre Viva	A2	Wru_SieViv	12	Earthen	Moderate	Yes	If Thresholds Exceeded
6-06-011	Tijuana River - La Media	A1	TijUnTri_LaMed	12	Earthen	Moderate	Yes	If Thresholds Exceeded

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

5.11 SOLID WASTE

5.11.1 INTRODUCTION

This section describes the existing solid waste management setting of the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP); identifies the applicable regulatory framework; evaluates potential impacts associated with solid waste that would result from the proposed MWMP; identifies mitigation measures, if necessary, to reduce the level of impact associated with implementation of the proposed MWMP; and identifies the level of significance after any mitigation. Information in this section is from the City's General Plan, which provides relevant policies and regulations, and from information provided by other appropriate local agencies serving the MWMP program area.

For additional information regarding the disposal of hazardous materials if encountered during MWMP activities, refer to Section 5.5, Health and Safety/Hazards, of this Environmental Impact Report.

Implementation of the MWMP was determined to result in no impacts related to exceedance of wastewater treatment requirements, the need to construct or expand water or wastewater treatment facilities or expand storm water drainage facilities. As such, potential impacts associated with these issues are analyzed in Chapter 7, Effects Not Found to be Significant.

5.11.2 EXISTING CONDITIONS

Under City Charter Section 26.1 and Council Policy 800-04, the City is responsible for maintaining adequate drainage facilities to remove storm water runoff in an efficient, economic, and environmentally acceptable manner for the protection of property and life. The City's storm water conveyance system is monitored, repaired, and maintained by the City's Transportation & Storm Water Department (TSW). To keep the storm water channels functioning and to manage flood risk, the accumulated trash, debris, and sediment must be removed periodically. Currently, maintenance activities performed by TSW conform to the extent feasible with Section 5-14.3, Waste Reduction Program, in the City's *Whitebook – Standard Specifications for Public Works Construction* (City of San Diego 2018a).

Solid waste generated within the City may be disposed of at any permitted landfill, including the local Sycamore and Otay landfills that are owned and operated by Republic Services, and the Miramar Landfill that is owned and operated by the City on leased U.S. Department of the Navy land. The approximate amount of total annual discarded waste generated City-wide is 4.15 million tons, of which 2.78 million tons are recycled (City of San Diego 2015a).

Most of the solid waste that would be handled by the City as a result of the MWMP is anticipated to be transported to the West Miramar Landfill for disposal. West Miramar Landfill is a City-

operated landfill. Approximately 3,900 tons of solid waste are accepted per day at the landfill. According to the California Department of Resources Recycling and Recovery (CalRecycle), the Miramar Landfill has a remaining capacity of approximately 15.52 million cubic yards of solid waste and has a maximum permitted throughput of 8,000 tons per day. It is anticipated that the Miramar Landfill will reach its maximum capacity by August 31, 2025. The maximum permitted capacity is 87.76 million cubic yards (CalRecycle 2018a).

The other possible landfills that could be used for waste handled by the City as a result of the MWMP are the Otay and Sycamore landfills. The Otay Landfill has a remaining capacity of 21.19 million cubic yards and a maximum permitted throughput of 6,700 tons per day. It is anticipated that the landfill would close on February 28, 2030, and the maximum permitted capacity is 61.15 million cubic yards (CalRecycle 2018b). The Sycamore Landfill has 113.97 million cubic yards of remaining solid waste capacity and has a maximum permitted throughput of 5,000 tons per day. It is anticipated that the landfill will reach maximum capacity by December 31, 2042. The maximum permitted capacity is 147.9 million cubic yards (CalRecycle 2018c).

5.11.3 REGULATORY SETTING

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to address municipal and industrial solid waste generated nationwide. The RCRA gives the U.S. Environmental Protection Agency the authority to control hazardous waste from "cradle to grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. The RCRA also sets forth a framework for the management of nonhazardous solid waste.

The federal Hazardous and Solid Waste Amendments to the RCRA were adopted in 1984 and were aimed at waste minimization, phasing out land disposal of hazardous waste, and providing guidance for corrective action of releases. The amendments also allowed for increased enforcement authority for the U.S. Environmental Protection Agency, more stringent hazardous waste management standards, and a comprehensive underground storage tank program. Amendments to the RCRA in 1986 further enabled the U.S. Environmental Protection Agency to address environmental hazards relative to underground tank storage of petroleum and other hazardous substances (EPA 2013).

In 1993, RCRA Subtitle D, 40 Code of Federal Regulations (CFR) Parts 257 and 258 requirements established a framework for federal, state, and local government cooperation in controlling the management of nonhazardous solid waste. The federal role is to establish the overall regulatory direction by providing minimum nationwide standards for protecting human health and the

environment, and to provide technical assistance to states for planning and developing their own environmentally sound waste management practices. The actual planning and direct implementation of solid waste programs under Subtitle D remains with state and local regulators. The U.S. Environmental Protection Agency retains the authority to enforce the appropriate standards in a given state.

State

California Integrated Waste Management Act

Assembly Bill (AB) 939, known as the California Integrated Waste Management Act of 1989, originally required all California cities and counties to divert 50% of the waste generated within their boundaries by the year 2000.

The act requires each California city and county to prepare, adopt, and submit to CalRecycle a Source Reduction and Recycling Element (SRRE) that demonstrates how the jurisdiction will meet the California Integrated Waste Management Act's mandated diversion goals. Each jurisdiction's SRRE must include specific components, as defined in California Public Resources Code Sections 41003 and 41303. In addition, the SRRE must include a program for the management of solid waste generated in the jurisdiction consistent with the following hierarchy: (1) source reduction, (2) recycling and composting, (3) environmentally safe transformation, and (4) land disposal. Transformation is considered superior to disposal, but is only allowed to account for a maximum of 10% of the total 50% diversion requirement.

Assembly Bill 341

AB 341 (2012) established a statewide goal to divert 75% of solid waste from landfills by 2020. Part of the City's compliance with the requirements of AB 341 includes the establishment of a City Recycling Ordinance, Municipal Code Section 66.0701, which requires that recyclable materials be collected separately from the waste of residential and commercial waste generators.

Assembly Bill 1826

AB 1826 (2014) requires businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate on a weekly basis. Additionally, AB 1826 requires that, after January 1, 2016, all local jurisdictions implement an organic waste recycling program to divert organic waste generated by businesses, including multi-family residential dwellings with five or more units. Organic waste includes food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste. This law phases in the mandatory recycling of commercial organics over time.

Because the minimum threshold of organic waste generation by businesses will be decreased over time (e.g., in 2016, affected businesses were those generating 8 cubic yards or more of organic waste per week; in 2019, affected businesses will be those generating 4 or more cubic yards of organic waste), an increasingly greater proportion of the commercial sector will be required to comply. AB 1826 is intended to achieve California's recycling and greenhouse gas emissions reduction goals. Reducing the amount of organic materials sent to landfills and increasing the production of compost and mulch are part of the AB 32 Scoping Plan.

Senate Bill 1383

Senate Bill 1383 (2016) requires a 50% reduction in disposal of organic waste from the 2014 level by 2020, and a 75% reduction by 2025. The law grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets, and establishes an additional target that not less than 20% of currently disposed edible food be recovered for human consumption by 2025. Food waste alone accounts for approximately 17% to 18% of total landfill disposal. Increasing food waste prevention, encouraging edible food rescue, and expanding the composting and in-vessel digestion of organic waste throughout the state will help reduce methane emissions from organic waste disposed in California's landfills. In addition, compost has numerous benefits, including water conservation, improved soil health, and carbon sequestration (CalRecycle 2019).

Local

City of San Diego Solid Waste Local Enforcement Agency

The City of San Diego Solid Waste Local Enforcement Agency is a program within the City's Development Services Department that is certified by CalRecycle to implement and enforce state laws and regulations for solid waste facilities throughout the City. Solid waste facilities include active and closed landfills, former disposal sites (including burn sites), transfer facilities, composting facilities, waste tire facilities, and waste haulers. The Local Enforcement Agency issues permits to the above facility types and conducts routine inspections to monitor sites for compliance with state laws and regulations. The overall purpose of these laws and regulations is to protect public health and safety and the environment.

City of San Diego Transportation & Storm Water Department Waste Diversion Plan

In accordance with the City of San Diego *Zero Waste Plan*, City departments are required to meet an initial goal of at least 50% diversion of solid waste by 2020 to meet the City's overall goals of 75% diversion by 2020, 90% by 2035, and zero by 2040 (City of San Diego 2015a). The City Recycling Ordinance was adopted by the City Council on November 13, 2007. It establishes requirements for appropriately recycling materials generated from residential facilities, commercial facilities, and special events.

City departments are required to create a *Waste Diversion Plan* that addresses both the *Zero Waste Plan* and the City Recycling Ordinance. The Environmental Services Department requests each department to report non-City serviced solid waste on a quarterly basis to verify current levels of service for recycling and trash.

City of San Diego Zero Waste Plan

The City of San Diego *Zero Waste Plan* calls for handling discarded materials as commodities for reuse rather than for disposal, and conserving those commodities through waste prevention, recycling, composting, and other technologies. This "discards" management system emphasizes that commodities can flow full circle, focusing on conservation during the total life cycle of materials, from product design, collection, and processing to the marketing of new products made from the material. The goals of the *Zero Waste Plan* are to target 75% diversion by 2020, 90% by 2035, and zero by 2040 by identifying potential diversion strategies for future action (City of San Diego 2015a). Increasing the City's waste diversion rate to 75% will require an estimated 332,000 tons per year to be diverted from landfill disposal.

City of San Diego General Plan

The City of San Diego *General Plan* Public Facilities, Services, and Safety Element includes the following policies related to solid waste. [Note that only applicable policies are listed here, so policies may not show as consecutive.] (City of San Diego 2015b):

Policy PF-I.1 Provide efficient and effective waste collection services.

a. Route City and private fleets to minimize truck trip distances and use fuel-efficient vehicles producing low emissions.
b. Design or retrofit City and private operation stations consistent with sustainable development policies.

Policy PF-1.2 Maximize waste reduction and diversion.

a. Conveniently locate facilities and informational guidelines to encourage waste reduction, diversion, and recycling practices.
b. Operate public and private facilities that collect and transport waste and recyclable materials in accordance with the highest environmental standards.
d. Maximize the separation of recyclable and compostable materials.
k. Promote manufacturer and retailer responsibility to divert harmful, reusable, and recyclable products upon expiration from the waste stream.

n. Continuously assess new technologies for recycling, composting, cogeneration, and disposal to maximize efficient use of City resources and environmental protection.

5.11.4 THRESHOLDS OF SIGNIFICANCE

The City's *California Environmental Quality Act Significance Determination Thresholds* (City of San Diego 2016) and Appendix G of the California Environmental Quality Act (CEQA) Guidelines contain significance guidelines related to solid waste. The following questions are adapted from the City's Significance Thresholds and Appendix G of the CEQA Guidelines, and provide guidance to determine potential significance for solid waste:

Issue 1: Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Issue 2: Comply with federal, state, and local management and reduction statutes and regulations and adopted plans related to solid waste?

5.11.5 APPROACH AND METHODOLOGY

The activities proposed in the MWMP were developed with the goal of avoiding and minimizing potential impacts to landfill capacity, as well as minimizing potential conflicts with waste reduction and diversion goals/strategies. As such, the following Environmental Protocols (EPs) are identified as part of the proposed MWMP because these specific proposed activities (individually and cumulatively) serve to reduce such impacts.

Environmental Protocols

EP-SW-1 **Waste Management Plan.** The City of San Diego (City) Transportation & Storm Water Department (TSW) has prepared a *Waste Management Plan* in accordance with the City's *California Environmental Quality Act Significance Determination Thresholds*. The *Waste Management Plan* adheres to the City's Guidelines for a Waste Management Plan. The *Waste Management Plan* includes a description of the project and overall timeline, and identifies the type and tonnage of waste that would be generated, identifies ways to manage or reduce the waste (e.g., source reduction, recycling, composting), summarizes and identifies the effectiveness of different measures used to reduce waste, and identifies a plan for implementation. The *Waste Management Plan* also identifies the name and location of recycling, reuse, and landfill facilities where recyclables and waste shall be taken if not reused on site.

The *Waste Management Plan* shall be approved by the Environmental Services Department, and TSW shall ensure the approved *Waste Management Plan* is implemented prior to the start of any maintenance activity proposed under the *Municipal Waterways Maintenance Plan*.

EP-SW-2 **Reusable Materials.** Soil, sand, and silt shall be screened to remove waste debris and re-used as fill material, aggregate, or other raw material unless conditions specified in the *Waste Management Plan* make the use of screening equipment inappropriate or infeasible. For maintenance activities in concrete-lined or earthen-bottom storm water facilities that are not located in areas with known contamination or where unexpected contamination is encountered, a shaker or comparable equipment to separate and/or sort material shall be used, unless conditions specified in the *Waste Management Plan* make the use of this equipment inappropriate or infeasible, to separate reusable and recyclable materials from non-reusable materials. Once excavated material has been placed in stockpiles, it shall be screened and separated with the use of a shaker or comparable equipment unless this process is found to be infeasible, per the specifications in the *Waste Management Plan*. Reusable materials (e.g., soil, sand, or silt) that have been separated out shall be diverted to other sites within the City that are in need of fill, aggregate, or other raw materials unless specific conditions provided in the *Waste Management Plan* indicate that reuse is not appropriate or feasible.

EP-SW-3 **Suitable Reuse.** If not reused on site, excess fill dirt shall be beneficially reused by means of dirt brokers, or donated to another project, or advertised as available via print ad, online, or any other suitable means unless conditions specified in the *Waste Management Plan* make diversion of geologic materials infeasible.

EP-SW-4 **Green Waste.** Green waste material shall be diverted from disposal and put to the highest and best use (e.g., compost or landfill cover), unless conditions specified in the *Waste Management Plan* make diversion of green waste infeasible.

EP-SW-5 **Tire Disposal.** Waste tires shall be separated and transported to an appropriate recycling facility. If more than nine tires are in a vehicle or waste bin at any one time, they shall be transported under a completed Comprehensive Trip Log to document that the tires were taken to an appropriate recycling facility.

EP-SW-6 **Material Diversion.** When removal of sediments and debris from channels and storm drains are required, a preliminary estimate of the materials that can be diverted to beneficial use shall be made. Receipts from disposal, re-use, and recycling options shall indicate that 50% of materials are diverted. These uses shall include (a) recycling; (b)

composting; (c) use as a fill material; (d) alternative daily cover; (e) land application; (f) cement, brick, block, or asphalt constituent; (g) road bed; (h) beach replenishment; or (i) other non-disposal use.

EP-SW-7 **Landfill Notification.** Only facilities properly permitted by the state, County of San Diego, or local authorities, where applicable, shall be used. Notification shall be provided to the Miramar Landfill at least 24 hours in advance of bringing in 10 tons or more of waste in any 1 day, or 60 tons or more in any 1 month.

EP-SW-8 **Composting.** Compostable green waste shall be taken to an approved composting facility, if available, unless conditions specified in the *Waste Management Plan* make diversion of green waste infeasible.

5.11.6 IMPACTS

As described in Chapter 4, Project Description, the MWMP includes a description of maintenance and repair activities, plus supporting implementation methods. The majority of these activities are routine and anticipated to occur in conformance with specific Facility Maintenance Plans (FMPs) included in the MWMP (Appendix A). Routine refers to typical activities that occur on a regular, ongoing basis and are associated with maintaining storm water infrastructure. However, additional activities not identified in an FMP may be required and may occur anywhere within the City's storm water conveyance system.

Potential site-specific impacts associated with implementation of MWMP activities and methods as identified in the FMPs are described below under the "Project-Level Analysis (FMPs)" heading for each of the issues identified above. As further detailed in Chapter 4, Project Description, MWMP activities consist of maintenance and repair activities. Maintenance activities include vegetation and invasive plant species management, sediment/debris removal, structural/debris/trash-fence clearing, and culvert clearing. Repair activities include concrete (minor and major) and bank repair, and structural/debris/trash-fence repair.

Potential impacts associated with implementation of additional MWMP activities and methods (i.e., minor maintenance, changed conditions/new or substantially amendment FMPs, compensatory mitigation sites, and emergency maintenance) are identified under Section 5.11.7, Program-Level Analysis (Other MWMP Activities). These impacts are analyzed to the extent feasible at this time; however, additional project-level CEQA analysis and/or new or amended permits may be required prior to implementation.

Issue 1: Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Project-Level Analysis (FMPs)

Implementation of the MWMP would not result in development of buildings, structures, or other facilities that would generate solid waste on an ongoing basis. The MWMP also would not involve conventional project construction or demolition activities that would generate solid waste requiring disposal. Maintenance and repair of MWMP facilities would primarily involve handling and removing vegetation and sediment to minimize disruption of storm water flow. Vegetation causes flooding by slowing the velocity of floodwater, and sediment diminishes the capacity of the facility to convey flows.

Storm water facility maintenance activities associated with the MWMP are anticipated to handle the following three primary types of materials requiring disposal: excavated spoil, vegetation, and trash/debris. Excavated spoil would comprise sediment removed from storm water facilities (City of San Diego 2005). This sediment is anticipated to be predominantly composed of soil materials, but may also contain urban runoff pollutants, such as automobile by-products, as well as pesticides and herbicides associated with landscape maintenance. Vegetation would consist of groundcover, shrubs, and trees removed from storm water facilities. This vegetation may range from minimal groundcover to dense riparian woodland. Large areas of a highly invasive plant known as giant reed (*Arundo donax*) are also anticipated to be removed in the course of channel maintenance or wetland mitigation. Trash/debris is expected to consist of a variety of discarded items, including shopping carts, car batteries, furniture, and tires.

Excavated Spoils

Excavated spoils collected from the waterways typically consist of a wet mixture of cobble, sand, silt, clay, and varying amounts of vegetation, trash, and contaminants. There are no facilities in the region that process mixed municipal excavated materials. Soil, sand, and silt would be screened to remove waste debris and re-used as fill material, aggregate, or other raw material usage, unless conditions specified in the *Waste Management Plan* make screening inappropriate or infeasible. For maintenance activities in concrete-lined or earthen-bottom storm water facilities that are not located in areas with known contamination or where unexpected contamination is encountered, a shaker or comparable equipment to separate and/or sort material would be used, unless conditions specified in the *Waste Management Plan* make the use of this equipment infeasible, to separate reusable and recyclable materials from non-reusable materials. Once excavated material has been placed in stockpiles, it would be screened and separated with the use of a shaker or comparable equipment unless this process is found to be infeasible, per the specifications in the *Waste Management Plan*.

Reusable materials (e.g., soil, sand, or silt) would be diverted to other sites within the City that are in need of fill, aggregate, or other raw materials unless specific conditions provided in the *Waste Management Plan* indicate that reuse is not feasible. Any materials that are not diverted from disposal would be dried to the specifications of the destination landfill prior to delivery. Compostable green waste would be taken to an approved composting facility, if available.

One factor that would make use of a shaker inappropriate or infeasible is the potential for contamination. If this material were to be reused, sediment testing would be required to determine the level of contamination from the most common constituents of urban runoff, such as hydrocarbons, metals, and household pesticides. Excavated material that cannot be used at other sites at a cost that is comparable to or less than the cost of disposal, and that is not contaminated with materials that make it unacceptable for disposal in a Class 3 landfill, would be dried to the requirements of the disposal facility before it is delivered. In areas of known or suspected contamination, specific EPs, as outlined in Section 5.5, Health and Safety/Hazards, would be required to protect maintenance crews and the surrounding environment. The City would not use a shaker or comparable equipment to screen material where known or suspected contamination has occurred, or where unexpected contamination is encountered.

Although the use of a shaker or comparable equipment could be feasible for reducing the amount of waste deposited at the landfill, it is uncertain how much excavated material would actually be available for reuse.

Vegetation

In facilities that contain substantial stands of invasive plant species, efforts would be made to remove and eradicate the invasive species through vegetation management, including mechanized removal that involves removal of root structures and sediment, mechanized grubbing or mowing that leaves roots and sediment intact, and/or hand removal.

The Greenery located at the Miramar Landfill is an organic material processing facility that accepts most plant (vegetative) wastes, and certain other organic waste, such as untreated wood and food waste. Difficult-to-process materials, such as large stumps, large plants, palm fronds, cactus and yucca plants, agave, bamboo, banana trees, bird of paradise, coral trees, pampas grass, and pickleweed, may be assessed a surcharge.

Riprap/Concrete Debris

Solid waste would also be collected from minor and major concrete repair activities. Concrete repair activities would address developed concrete-lined channels where the lining is damaged or eroded. Minor concrete repair would require the minimal amount of impact necessary to fix the damaged

concrete so the facility does not sustain further damage. Minor concrete repair may require minimal surficial recontouring of existing soils or imported aggregate to provide a suitable substrate to pour concrete. Major concrete repair would involve the reconstruction of large sections of the concrete channel lining, barrier walls, or headwall structures that have been severely damaged and need to be reconstructed to existing constructed or as-built conditions. Major concrete repair may also require the underlying soil to be excavated approximately 1 to 2 feet to provide a suitable substrate to pour concrete. Concrete waste, riprap, and soils that are not contaminated would be diverted from disposal at the landfill unless diversion is determined to be infeasible, per the specifications in the *Waste Management Plan*.

Tires

According to TSW's *Waste Diversion Plan*, tires found during maintenance or cleaning operations would be separated and recycled at an appropriate facility. If a large number of tires are discovered at any time, they would be transported under a comprehensive trip log to document that the tires were taken to an appropriate disposal facility.

Solid Waste Estimates

The calculation to estimate the maximum handled waste removed is based on volume estimates for sediment and vegetation per representative activity, with a 10% addition for trash and debris, followed by rounding up to the nearest 100 cubic yards. Sediment estimates are conducted by multiplying the length, width, and depth of each of the facility segments. Vegetation estimates are derived based on a 0-foot depth where no vegetation is present, and a 1-foot depth for riparian and invasive vegetation. These depths are determined on experience from the landscape contracting subsidiary, HRS. The total waste export estimates under the proposed MWMP are generally between 20 and 100 cubic yards per linear foot. Once the amount of cubic yards per representative activity was determined for the MWMP, this value was multiplied by the number of maximum annual occurrences to determine the most conservative annual scenario.

To calculate tons per cubic yard for the MWMP, weight estimates derived from CalRecycle were used (CalRecycle 2018g). Based on CalRecycle's estimates, sediment weighs approximately 1.2 tons per cubic yard dried, and vegetation weighs approximately 0.3 tons per cubic yard. To be conservative, it was assumed for all representative activities that 80% of material removed would be sediment and 20% of material removed would be vegetation, with the exception of minor and major concrete maintenance and repair activities, which assumed 100% of material to be concrete, and maintenance of structural facilities (i.e., outlets/inlets and/or trash fences), which assumed 50% sediment, 30% vegetation, and 20% concrete.

The maximum estimated waste that would be handled from annual maintenance, waste removal, and concrete repairs is shown in Table 5.11-1, Solid Waste Handling Activity.

Table 5.11-1
Solid Waste Handling Activity

Representative Activities	Representative Facility Maintenance Plan	Approx. Linear Feet	Approx. Cubic Yards (per Activity)	Number during Max Annual Period	Cubic Yards (Max Annual)	Tons (Max Annual)
Sediment and vegetation removal in concrete-lined facilities that are 20% or more vegetated	San Diego River – Camino del Rio Segment 1	1,000	800	3	2,400	2,448
Sediment and vegetation removal in concrete-lined facilities that are less than 20% vegetated	Alvarado Canyon Creek – Mission Gorge Segment 2	600	1,400	6	8,400	8,568
Sediment and vegetation removal of the Tijuana River facility group (Pilot Channel and Smuggler's Gulch)	Tijuana River – Pilot Channel and Smuggler's Gulch	8,300	30,000	1	30,000	30,600
Sediment and vegetation removal in Earthen Facility Typical – 1	Mission Bay – Mission Bay Drive Segment 1	1,000 to 1,700	2,600	3[a]	—	—
Sediment and vegetation removal in Earthen Facility Typical – 2	Murphy Canyon Creek – Stadium Segment 1	1,000 to 1,700	3,800	3	11,400	11,628

Table 5.11-1
Solid Waste Handling Activity

Representative Activities	Representative Facility Maintenance Plan	Approx. Linear Feet	Approx. Cubic Yards (per Activity)	Number during Max Annual Period	Cubic Yards (Max Annual)	Tons (Max Annual)
Sediment and vegetation removal in Earthen Facility Typical – 3	Tecolote Creek – Genesee Segment 1	80 to 700	3,600	6	21,600	22,032
Sediment and vegetation removal in Earthen Facility Typical – 4	Mission Hill Canyon Creek – Titus Segment 1	80 to 700	200	6[b]	—	—
Major concrete repair and maintenance	Tijuana River – Smythe Via Encantadoras Segment 3	900	121	2	242	290
Minor concrete repair and maintenance	Generic Concrete Repair	50	32	12	384	461
Structural clearing (i.e., inlet and outlet maintenance)	4202 J Street	115	32	10	320	298
Total	—	—	—	—	**74,746**	**76,325**

[a] Three maximum annual events are proposed for "Typical 1" and "Typical 2" representative activities. The "Typical 2" representative activity involves a greater amount of cubic yards, thus the "Typical 2" representative activity was used to determine the worst-case scenario if the three annual events were to occur.

[b] Six maximum annual events are proposed for "Typical 3" and "Typical 4" representative activities. The "Typical 3" representative activity involves a greater amount of cubic yards, thus the "Typical 3" representative activity was used to determine the worst case scenario if the six annual events were to occur.

As described in Section 5.11.2, Existing Conditions, the Miramar Landfill has a remaining capacity of approximately 15.52 million cubic yards of solid waste. It is anticipated that the landfill will reach its maximum capacity by August 2025, and the maximum permitted capacity is 87.76 million cubic yards (CalRecycle 2018a). The Miramar Landfill is expected to be the primary landfill where solid waste output would be transported for MWMP activities. MWMP activities are estimated to involve handling of a maximum of 74,746 cubic yards, which is equivalent to 76,325 tons of solid waste, per year.

Based on the 7-year remaining life expectancy of the Miramar Landfill, and the 15.52 million cubic yards of remaining capacity, the landfill can accept approximately 2.2 million cubic yards annually until closure. The Miramar Landfill has a maximum permitted throughput of 8,000 tons per day. Therefore, if the maximum annual scenario were to occur, the proposed MWMP could potentially contribute, under a conservative scenario, approximately 210 tons per day of solid waste to the Miramar Landfill, which is equivalent to approximately 2.6% of maximum permitted throughput per day.

Solid waste handled throughout the City under the MWMP could also be hauled to the other publicly available landfills, such as the Otay Landfill or Sycamore Landfill. The Otay Landfill and Sycamore Landfill both have remaining capacities greater than the Miramar Landfill (CalRecycle 2018d). Although waste could be hauled to these other facilities, the majority of waste would be taken to the Miramar Landfill because there is operational efficiency in hauling debris to the nearest facility. The Miramar Landfill is centrally located, but haul distances from some storm drain segments may be closer to the other landfills, and materials that are not recycled may be transported to these facilities. It is unknown how much would be distributed among the other facilities.

Regardless, although MWMP activities would consume landfill capacity, there would be no increase above existing, baseline conditions. There would be no increase in the amount of solid waste that is currently handled and transferred to the Miramar Landfill during existing maintenance of storm water facilities.

In addition, activities under the MWMP would comply with the City's most current *Whitebook – Standard Specifications for Public Works Construction* regarding waste management and waste reduction. Further, specific EPs have been identified in the *Waste Management Plan* and in Section 5.11.5, Approach and Methodology, to reduce the amount of solid waste sent to the landfill by 50%. Although it cannot be ensured that the targeted 50% diversion of materials from disposal will be attained, measures specified for the MWMP are provided above and beyond the baseline condition. These waste diversion measures would contribute to an increased waste diversion rate. Thus, although it is unknown how much solid waste could be diverted, the potential contribution of solid waste from MWMP activities would be **less than significant** and would not require the need for new or expanded solid waste disposal facilities.

Issue 2: Comply with federal, state, and local management and reduction statutes and regulations and adopted plans related to solid waste?

Project-Level Analysis (FMPs)

AB 939 (California Integrated Waste Management Act) requires cities to prepare and adopt a source reduction and recycling element that focuses on the management of solid waste generated or handled in the jurisdiction, consistent with the following hierarchy: (1) source

reduction, (2) recycling and composting, (3) environmentally safe transformation, and (4) land disposal. These four methods of managing waste represent all acceptable modes of managing waste. Uncontained litter is not acceptable.

Per the requirements of TSW's *Waste Diversion Plan*, TSW has targeted 50% waste diversion from landfill disposal. Currently, TSW has a waste diversion rate of approximately 24% (City of San Diego 2017). This low diversion rate is largely due to street sweeping spoils and other materials that cannot be diverted from disposal.

Proposed activities under the MWMP would divert automotive tires and some separated metal materials. Soil, sand, and silt would be screened to remove waste debris and re-used as fill material, aggregate, or other raw material usage unless conditions specified in the *Waste Management Plan* make the use of screening equipment inappropriate or infeasible. For maintenance activities in concrete-lined or earthen-bottom storm water facilities that are not located in areas with known contamination or where unexpected contamination is encountered, a shaker or comparable equipment to separate and/or sort material would be used, unless conditions specified in the *Waste Management Plan* make the use of this equipment inappropriate or infeasible, to separate reusable and recyclable materials from non-reusable materials. Once excavated material has been placed in stockpiles, it would be screened and separated with the use of a shaker or comparable equipment unless this process is found to be infeasible, per the specifications in the *Waste Management Plan*. Reusable materials (e.g., soil, sand, or silt) that have been separated out would be diverted to other sites within the City that are in need of fill, aggregate, or other raw materials unless specific conditions provided in the *Waste Management Plan* indicate that reuse is not appropriate or feasible. Remaining waste would be transported to a permitted landfill. However, the waste being hauled to the landfill under the MWMP would not be generated by the maintenance activities themselves, but, rather, the maintenance activities would involve handling waste that has already been generated and deposited within storm water facilities throughout the City. The hierarchy of AB 939 provides (1) source reduction, (2) recycling and composting, (3) incineration, and (4) landfilling. These four methods of managing waste represent all acceptable modes of managing waste. Uncontained litter is not acceptable.

Although the solid waste estimates are conservative and likely overestimate the actual impact of the proposed MWMP, based on the City's *Significance Determination Thresholds*, public projects that comply with the waste reduction targets established in the Public Resources Code would not result in a significant impact. However, due to the uncertainty regarding the availability of suitable reuse sites for excavated material, the potential for material to be contaminated and associated regulatory constraints, and the inability to recycle materials recovered from the project sites, activities under the MWMP may not meet the 50% waste diversion goal set by the TSW *Waste Diversion Plan*. Implementation of **EP-SW-1**, in addition to **EP-SW-2** through **EP-SW-8**, would ensure that waste

collected during maintenance would be diverted from the landfill to the maximum extent feasible. However, impacts would remain **potentially significant** (**SW-1**).

5.11.7 PROGRAM-LEVEL ANALYSIS (OTHER MWMP ACTIVITIES)

Programmatic activities would include minor maintenance activities, changed conditions or new/substantially amended FMPs, new compensatory mitigation sites (see Section 5.3, Biological Resources), and emergency maintenance or repair. Under the MWMP, these additional programmatic activities would be subject to the review and approval processes outlined in the MWMP.

Similar to project activities previously analyzed under Issue 1, all programmatic maintenance activities have the potential to handle or generate solid waste. The types of solid waste handled (e.g., vegetation, sediment, debris) and the types of representative activities (e.g., vegetation removal, concrete repair) previously discussed to estimate the potential amount of solid waste handled as a result of the MWMP reflect the same types of solid waste and representative activities that could occur on a programmatic level.

Therefore, although the programmatic activities would contribute to loss of landfill capacity, they would contribute waste at a rate that is less than these activities under existing, baseline conditions. **EP-SW-1** through **EP-SW-8** previously identified for project activities to reduce the amount of solid waste sent to the landfill would also be implemented for programmatic activities. Thus, although it is unknown how much solid waste could be diverted, the potential contribution of solid waste from programmatic activities would be less than baseline, and, therefore, impacts would be **less than significant**.

Regarding Issue 2, due to the nature of the solid waste handled under the MWMP for project and programmatic activities, recycling and reusing the materials is not always appropriate or feasible, and the amount that would be diverted from disposal is unknown. Given that the proposed MWMP may not substantially change the amount of solid waste currently handled and transferred to the Miramar Landfill, and that TSW has a current diversion rate far below the required amount of 50%, it is anticipated that programmatic activities would also not comply with the 50% waste diversion goal set by the TSW *Waste Diversion Plan*. Therefore, even with implementation of **EP-SW-1** through **EP-SW-8**, impacts would be **potentially significant** (**SW-1**).

5.11.8 SIGNIFICANCE OF IMPACT

As discussed under Issue 1, the proposed MWMP would have a **less-than-significant** impact on solid waste disposal facilities and landfill capacity. The EPs identified below would help reduce the amount of solid waste transferred to the landfill. As discussed under Issue 2, the proposed MWMP would not comply with all federal, state, and local statutes and regulations related to solid waste, and impacts would be **potentially significant** (**SW-1**). However, to keep the storm water channels

functioning and to manage flood risk, the accumulated trash, debris, and sediment must be removed periodically.

5.11.9 MITIGATION MEASURES

No feasible mitigation measures exist to decrease the amount of solid waste that would be sent to a landfill as a result of the MWMP, such that the MWMP would be positively contributing to help meet TSW's *Waste Diversion Plan* goal of 50% diversion.

5.11.10 SIGNIFICANCE AFTER MITIGATION

Accumulated trash, debris, and sediment must be removed periodically to keep storm water facilities functioning as designed to carry storm water downstream and to manage flood risk. When implemented, the EPs, and in particular, implementation of the *Waste Management Plan* (**EP-SW-1**), would divert a portion of solid waste from being transferred to the landfill. However, due to the uncertainty regarding how much material could feasibly be reused or recycled, it is unknown how much solid waste handled under the MWMP could be diverted. Thus, it is unknown if implementation of the *Waste Management Plan*, in addition to **EP-SW-2** through **EP-SW-8**, would reduce the impact by increasing the amount of waste diverted enough to comply with state and local plans and regulations. Therefore, impacts would remain **significant and unavoidable**.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

5.12 WATER QUALITY

5.12.1 INTRODUCTION

This section describes the existing water quality resources setting of the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP); identifies the applicable regulatory framework; evaluates potential impacts associated with water quality that would result from the proposed MWMP; identifies mitigation measures, if necessary, to reduce the level of impact associated with implementation of the proposed MWMP; and identifies the level of significance after any mitigation. Information in this section is derived from the *Water Quality Technical Analysis Report* for the MWMP, included as Appendix J of this Environmental Impact Report (EIR).

Information presented in this section was obtained from sources listed in Chapter 10, References, and includes the City of San Diego MWMP *Water Quality Technical Analysis Report* and *Hydrology and Hydraulics Technical Report* (Appendices J and I); Facility Maintenance Plans, which are Appendix A of the MWMP; maps and data from Project Clean Water (2018); and published information from San Diego area Watershed Management Area Responsible Agencies.

5.12.2 EXISTING CONDITIONS

This section describes summary information for regional climate, topography, soils, and surface water and groundwater hydrology of the MWMP program area, which lies within the southern coastal portion of the San Diego region. Detailed existing conditions water quality information is presented in MWMP *Water Quality Technical Analysis Report* and *Hydrology and Hydraulics Technical Report* (Appendices J and I).

General Setting

Water quality in receiving waters adjacent to urbanized areas can be impacted by pollutants in storm water runoff. Pollutants generated from human activities settle on impervious surfaces until precipitation or dry weather discharge events wash those pollutants into the municipal separate storm sewer system (MS4). Common pollutants found in urban runoff include metals, pesticides, fertilizers, bacteria, litter, and sediment. Storm water and dry weather runoff mobilizes and transports these and other pollutants, which are then discharged to waterways via the MS4.

MS4 discharges are regulated under a suite of National Pollutant Discharge Elimination System (NPDES) permits that require water quality planning and protection, further described in Section 5.12.3, Regulatory Setting. Guidance for water quality planning and protection at the regional scale is provided in the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) (RWQCB 2016). Guidance at the Watershed Management Area (WMA) scale is provided in *Water Quality Improvement*

Plans (WQIPs) developed per the MS4 Permit. There are six WMAs within the City's jurisdiction: San Dieguito River, Los Peñasquitos, Mission Bay, San Diego River, San Diego Bay, and Tijuana River (see Table 5.12-1 and Figures 5.12-1a, 5.12-1b, and 5.12-1c). In other sections, the San Diego Bay WMA is further divided into the Pueblo San Diego, Sweetwater, and Otay watershed; however, because water quality regulatory documents align with WMAs, the discussion in this section is organized based on WMA.

Table 5.12-1
City of San Diego Watershed Management Areas

Watershed Management Area	Hydrologic Unit or Watershed	Major Surface Water Bodies
San Dieguito River	San Dieguito (905)	• San Dieguito River • San Dieguito Lagoon • Pacific Ocean
Los Peñasquitos	Peñasquitos (906)	• Los Peñasquitos Lagoon • Pacific Ocean
Mission Bay		• Mission Bay • Pacific Ocean • San Diego Marine Life Refuge Area of Special Biological Significance
San Diego River	San Diego (907)	• San Diego River • Pacific Ocean
San Diego Bay	Pueblo San Diego (908) Sweetwater (909) Otay (910)	• Chollas Creek • Sweetwater River • Otay River • San Diego Bay • Pacific Ocean
Tijuana River	Tijuana (911)	• Tijuana River • Tijuana Estuary • Pacific Ocean

Since the City's storm water conveyance system is separate from the sanitary sewer system, the drainage system is referred to in storm water regulations as the MS4. The primary purpose of the WQIPs is to guide jurisdictional runoff management programs toward the goal of improving water quality.

This Existing Conditions section summarizes the existing water quality settings of the MWMP program area, and associated planning and protection. This includes beneficial uses and impairments for water bodies in which maintenance is proposed and other downstream water

bodies, total maximum daily loads (TMDLs) adopted to address impairments, water quality sensitive areas identified by the City, WQIPs, and various water quality monitoring programs conducted by the City and other agencies and groups.

Beneficial Uses

The Basin Plan designates beneficial uses of surface water and groundwater or regional waters. Beneficial uses are defined as "the uses of water necessary for the survival or well-being of man, plants, and wildlife." These uses of water serve to promote economic, social, and environmental goals.

The Basin Plan also sets narrative and numerical water quality objectives that must be attained or maintained for the designated beneficial uses. Under Section 303(d) of the Clean Water Act (CWA), the State Water Resources Control Board (SWRCB) is required to evaluate all available water-quality-related data and information to develop a list of waters that do not meet established water quality standards (i.e., beneficial uses, water quality criteria, or objectives to protect the beneficial uses, and state and federal anti-degradation policies). These waters are known as impaired waters (California Water Boards San Diego 2018).

A summary of potentially affected beneficial uses in water bodies within each WMA where the City has jurisdiction is presented in Table 5.12-2. The WMAs are illustrated in Figures 5.12-1a through 5.12-1c, Location of 303(d) Listed Water Bodies and MWMP Maintenance Facilities. The water bodies assessed in each WMA include water bodies where maintenance is proposed, and water bodies where maintenance is not proposed but that are downstream of locations where maintenance is proposed.

Table 5.12-2
Summary of Beneficial Uses by Watershed Management Area

Beneficial Uses	San Dieguito River	Los Peñasquitos	Mission Bay	San Diego River	San Diego Bay	Tijuana River
Municipal and domestic supply (MUN)	X	+	+	X	+	+
Agricultural supply (AGR)	X	X		X	X	X
Industrial service supply (IND)	X	X	X	X	X	P
Industrial Process Supply (PROC)	X					
Groundwater recharge (GWR)	P					
Freshwater replenishment (FRSH)						

Table 5.12-2
Summary of Beneficial Uses by Watershed Management Area

Beneficial Uses	San Dieguito River	Los Peñasquitos	Mission Bay	San Diego River	San Diego Bay	Tijuana River
Hydropower generation (POW)				X		
Contact water recreation (REC-1)	X	X	X	X	X	X
Non-contact recreation (REC-2)	X	X	X	X	X	X
Preservation of biological habitats of special significance (BIOL)	X	X	X	X	X	X
Warm freshwater habitat (WARM)	X	X	X	X	X	X
Cold freshwater habitat (COLD)	X	X		X		
Wildlife habitat (WILD)	X	X	X	X	X	X
Rare, threatened, or endangered species (RARE)	X	X	X	X	X	X
Spawning, reproduction, and/or early development (SPWN)	X	X	X	X	X	X
Navigation (NAV)	X		X	X	X	
Commercial and sport fishing (COMM)	X		X	X	X	X
Estuarine habitat (EST)		X	X		X	X
Marine habitat (MAR)	X	X	X	X	X	X
Aquaculture (AQUA)	X		X	X		
Migration of aquatic organisms (MIGR)	X	X	X	X	X	X
Shellfish harvesting (SHELL)	X	X	X	X	X	X

X = Existing Beneficial Use; P = Potential Beneficial Use; + = Exempted from MUN Beneficial Use; Blank Cells = Not an Existing Beneficial Use

Beneficial uses of specific water bodies can be found in the *Water Quality Technical Analysis Report* (Appendix J).

Impaired Waters

The SWRCB and Regional Water Quality Control Boards (RWQCBs) assess water quality data for California's waters every 2 years to determine if pollutants exceed protective water quality criteria or standards, and if they are listed as impaired waterbodies (SWRCB 2017. Existing impairments in the MWMP program area are detailed in the *Water Quality Technical Analysis Repor*t (Appendix J) and summarized in Figures 5.12-1a through 5.12-1c. Pollutants contributing to regional water quality impairments include sediment, pathogens, metals, polycyclic aromatic hydrocarbons, synthetic organics, nutrients, oxygen-demanding substances, trash, toxicity, and benthic community effects. Complete descriptions of these pollutants and their effects on water quality can be found in Section 2.4, Pollutants in Storm Water Runoff, of the *Water Quality Technical Analysis Repor*t (Appendix J).

Impaired water bodies where maintenance is proposed or downstream of areas where maintenance is proposed are listed by WMA in Table 5.12-3. The *Water Quality Technical Analysis Report* (Appendix J), identifies listed impairments for each MWMP facility.

Table 5.12-3
Summary of 303(d) Listings by Watershed Management Area

Watershed Management Area	Water Body	303(d) Listing/Impairment
San Dieguito River	Green Valley Creek	Benthic community effects, bifenthrin, chloride, chlorpyrifos, manganese, pentachlorophenol (PCP), sulfates, total nitrogen as n
	Lake Hodges	Color, manganese, mercury, nitrogen, phosphorus, turbidity, pH
	Pacific Ocean Shoreline, San Dieguito Hydrologic Unit, at San Dieguito Lagoon Mouth at San Dieguito River Beach	Indicator Bacteria
	San Dieguito River	Benthic community effects, indicator bacteria, nitrogen, phosphorus, total dissolved solids, toxicity
Los Peñasquitos	Los Peñasquitos Creek	Benthic community effects, bifenthrin, chlorpyrifos, indicator bacteria, nitrogen, phosphate, total dissolved solids, toxicity
	Los Peñasquitos Lagoon	Sedimentation/Siltation, toxicity

Table 5.12-3
Summary of 303(d) Listings by Watershed Management Area

Watershed Management Area	Water Body	303(d) Listing/Impairment
	Pacific Ocean Shoreline, Miramar Reservoir Hydrologic Area, at Los Peñasquitos River mouth	Indicator bacteria
	Soledad Canyon	Sediment toxicity, selenium
Mission Bay	Tecolote Creek	Benthic community effects, bifenthrin, cadmium, copper, cypermethrin, diazinon, indicator bacteria, lead, nitrogen, phosphorus, selenium, toxicity, turbidity, zinc
	Mission Bay (area at mouth of Rose Creek only)	Eutrophic, lead
	Mission Bay (area at mouth of Tecolote Creek only)	Eutrophic, lead
	Mission Bay Shoreline, at De Anza Cove	Indicator bacteria
	Rose Creek	Benthic community effects, selenium, toxicity
San Diego River	Alvarado Creek	Nitrogen, selenium
	Murray Reservoir	Nitrogen, pH (both delisted)
	Pacific Ocean Shoreline, San Diego Hydrologic Unit, at the San Diego River outlet, at Dog Beach	Indicator bacteria
	San Diego River (Lower)	Benthic community effects, cadmium, indicator bacteria, low dissolved oxygen, nitrogen, phosphorus, total dissolved solids, toxicity
San Diego Bay	Chollas Creek	Bifenthrin, chlorpyrifos, copper, cypermethrin, diazinon, indicator bacteria, lead, malathion, nitrogen, phosphorus, trash, zinc
	Paleta Creek	Copper, lead
	San Diego Bay	Mercury, PAHs (polycyclic aromatic hydrocarbons), PCBs (Polychlorinated biphenyls)
	San Diego Bay Shoreline, near Chollas Creek	Benthic community effects, sediment toxicity
	Sweetwater River, Lower (below Sweetwater Reservoir)	Benthic community effects, chlorpryifos, indicator bacteria, nitrogen phosphorus, selenium, total dissolved solids, toxicity

Table 5.12-3
Summary of 303(d) Listings by Watershed Management Area

Watershed Management Area	Water Body	303(d) Listing/Impairment
Tijuana River	Tijuana River	Ammonia as nitrogen, benthic community effects, cadmium, chlorpryifos, diazinon, eutrophic, indicator bacteria, low dissolved oxygen, malathion, pesticides, phosphorus, sedimentation/siltation, selenium, solids, surfactants (MBAS), synthetic organics, total nitrogen as N, toxicity, trace elements, trash
	Tijuana River Estuary	Eutrophic, indicator bacteria, lead, low dissolved oxygen, nickel, pesticides, thallium, toxicity, trash, turbidity

Source: RWQCB 2017

Total Maximum Daily Loads

Water quality impairments are addressed with the implementation of TMDLs, which is a regulatory term under CWA Section 303(d), describing a plan for restoring impaired waters. A TMDL identifies the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards. A TMDL may affect a single water body and pollutant, or a combination of multiple water bodies and pollutants. TMDLs are first issued as resolutions by the RWQCB and are subsequently approved by the SWRCB and the Environmental Protection Agency (EPA). Approved TMDLs are incorporated into the Basin Plan and the MS4 Permit . Approved TMDLs (RWQCB 2018) affecting the MWMP program area include the following:

- **Bacteria TMDL (Resolution No. R9-2010-0001)** (RWQCB 2010): Affects water bodies within the San Dieguito River, Los Peñasquitos, Mission Bay, San Diego River, and San Diego Bay WMAs
- **Los Peñasquitos Lagoon Sediment TMDL (Resolution No. R9-2012-0033)** (RWQCB 2012): Affects the Los Peñasquitos Lagoon in the Los Peñasquitos WMA
- **Chollas Creek Metals TMDL (Resolution No. R9-2007-0043)** (RWQCB 2007): A TMDL for dissolved copper, lead, and zinc that affects Chollas Creek in the San Diego Bay WMA
- **Chollas Creek Diazinon TMDL (Resolution No. R9-2002-0123)** (RWQCB 2002): A TMDL for diazinon that affects Chollas Creek in the San Diego Bay WMA

The TMDLs provide a framework for quantitative assessment of water quality problems, contributing sources, and load reductions or control actions needed to restore and protect bodies of

water. Numeric goals, schedules, and compliance strategies for TMDLs affecting the MWMP program area are discussed in the WQIPs (Responsible Agencies Los Peñasquitos WMA 2015; Responsible Agencies Mission Bay WMA 2016; Responsible Agencies San Diego Bay WMA 2016; Responsible Agencies San Diego River WMA 2016; Responsible Agencies San Dieguito River WMA 2015; Responsible Agencies Tijuana River WMA 2016).

Environmentally Sensitive Areas

The Regional MS4 Permit also identifies Environmentally Sensitive Areas and adopted TMDLs. Environmentally Sensitive Areas include areas designated as Areas of Special Biological Significance by the SWRCB and RWQCB, State Water Quality Protected Areas, water bodies designated with the "RARE" beneficial use in the applicable Basin Plan, and any other equivalent environmentally sensitive area that has been identified by the Copermittees to the Regional MS4 Permit. The Regional MS4 Permit incorporates the adopted TMDLs in the San Diego region. The City considers Environmentally Sensitive Areas as part of project planning per the City's Storm Water Standards Manual (City of San Diego 2018a). Maps of these areas can be viewed in Appendix XVI of the City's 2015 *Jurisdictional Runoff Management Plan* (JRMP) (City of San Diego 2015a). The geographic locations of Environmentally Sensitive Areas and MWMP facilities are shown in Figures 5.12-1a through 5.12-1c. The colored symbols representing MWMP facilities indicate the proximity of those facilities to 303(d) listed water bodies.

Wetlands

Wetlands are defined and identified in the *Biological Resources Technical Report for the Municipal Waterways Maintenance Plan* (Appendix D) based on local, state, and federal guidance. Wetlands are delineated based on three specific characteristics or parameters: 1) wetland hydrology, 2) hydric soils, and 3) hydrophytic vegetation. Although jurisdictional wetlands may be different for each agency; state and federal wetlands are typically defined as having all three characteristics. However, as defined by the City's Land Development Code Section 113.0103, wetlands are areas characterized by any one of the following conditions: all areas persistently or periodically containing naturally occurring wetland vegetation communities characteristically dominated by hydrophytic vegetation, including salt marsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodlands, riparian scrub, and vernal pools; areas that have hydric soils or wetland hydrology and lack naturally occurring wetland vegetation communities because human activities have removed the historic wetland vegetation, or catastrophic or recurring natural events or processes have acted to preclude the establishment of wetland vegetation, as in the case of salt pannes and mudflats; areas lacking wetland vegetation communities, hydric soils, and wetland hydrology due to non-permitted filling of previously existing wetlands; or areas mapped as wetlands on Map C-713 as shown in Chapter 13, Article 2, Division 6 (Sensitive Coastal Overlay Zone) of the Land Development

Code. Furthermore, the City, as well as state and federal resource agencies, try to differentiate between naturally occurring wetlands and wetlands intentionally created by human actions or activities in historically non-wetland areas to determine if an activity affecting wetlands or non-wetlands is regulated and would require permits.

The *Biological Resources Technical Report for the Municipal Waterways Maintenance Plan* (Appendix D) identifies the MWMP facilities that contain wetlands consistent with the above-defined conditions. Table 4-1 of the *Water Quality Technical Analysis Report* (Appendix J) identifies the specific MWMP facilities where wetland impacts may occur and the extent (area) of wetland impacts that may result from performance of MWMP maintenance activities.

Water Quality Improvement Plans

In 2015, the City participated in the development of WQIPs for the six WMAs in the City's jurisdiction. Per the MS4 Permit, the WQIPs were collaboratively prepared by the municipal agencies with responsibility for storm water management within each WMA. Detailed existing conditions water quality information is presented in City of San Diego MWMP *Water Quality Technical Analysis Report* and *Hydrology and Hydraulics Technical Report* (Appendices J and I).

Groundwater

Aquifers are groundwater-bearing formations sufficiently permeable to transmit and yield significant quantities of water. In the San Diego region, there are groundwater-bearing geologic formations that do not meet the definition of an aquifer. Accordingly, for basin planning and regulatory purposes, the term "groundwater" includes all subsurface waters that occur in fully saturated zones within soils and other geologic formations (RWQCB 2016). Subsurface waters are considered groundwater even if the waters do not occur in an aquifer or an identified groundwater basin.

Groundwater in the San Diego region is mostly found as saline brackish water that typically requires additional treatment (desalination) before use as water supply. Groundwater production in the region is typically limited by a number of factors, including lack of storage capacity in local aquifers, availability of groundwater recharge, and degraded water quality (SDCWA 2018). Narrow alluvial valleys filled with shallow sand and gravel deposits are characteristic of the most productive groundwater basins in the San Diego region. Outside of the principal alluvial aquifers and farther inland, groundwater occurs in fractured bedrock and semi-consolidated sedimentary deposits where yield and storage are limited. Aquifers with these characteristics are best suited for lower-yielding domestic water supply wells (SDCWA 2018). The San Diego region lacks large groundwater basins suitable for large-scale groundwater replenishment projects. Currently, less than 1% of the City's water supply is produced from groundwater resources (City of San Diego 2014a).

Although groundwater supplies are less plentiful in the San Diego region than in some other areas of California, these supplies have been identified as a potential source to help meet a greater portion of the region's future water supply and storage needs. The City is presently assessing the development potential of all its groundwater resources through various suitable water quality control and sustainable groundwater management plans. Groundwater basins within the City's jurisdiction include the San Pasqual Valley Basin, San Dieguito Basin, Santee/El Monte Basin, Mission Valley Basin, San Diego Formation, and the Tijuana Basin. The basins are relatively small in area and typically shallow (City of San Diego 2018b).

MWMP facilities generally occupy minor portions of watershed drainage areas that serve as part of surface storm water conveyance in the semi-arid San Diego region. Additionally, nearly all MWMP facilities are situated in second- or third-order streams that convey intermittent and low flows and contribute little to no recharge via leakage to groundwater. Finally, MWMP FMPs do not propose work in any areas of standing surface water or designed infiltration and/or spreading basins. Therefore, MWMP activities would not substantially decrease groundwater supplies or interfere with groundwater recharge because the MWMP involves facilities with no significantly established connection to underlying aquifer systems. MWMP activities would not significantly impede or obstruct the implementation of sustainable groundwater management plans for underlying principal aquifers.

Summary of Existing Monitoring Efforts

Extensive water quality monitoring is being conducted within the MWMP areas under WQIP efforts, which serve as the WMA and Copermittees central source for information on water quality conditions and data for the WMA. The Monitoring and Assessment Programs for the WQIPs have three major components:

- **Receiving water monitoring:** Monitoring occurs in wet and dry weather. Collected samples are analyzed for a variety of parameters, including indicator bacteria, suspended solids, pH, metals, nutrients, pesticides, and organics. Receiving water monitoring also includes bioassessment monitoring via a study that covers all of Southern California coordinated by the Stormwater Monitoring Coalition (SMC), and sediment quality monitoring in San Diego Bay and Mission Bay.
- **MS4 outlet discharge monitoring:** Monitoring occurs in wet and dry weather. Collected samples are analyzed for a variety of parameters, including indicator bacteria, suspended solids, pH, metals, nutrients, pesticides, and organics.
- **Special studies:** Special studies include watershed-specific studies and regional studies, such as a recent study of reference conditions at beaches and streams.

Additional monitoring is completed to meet TMDL requirements, where applicable. TMDL monitoring includes bacteria testing in the San Dieguito River, Los Peñasquitos, Mission Bay, San Diego River, and San Diego Bay WMAs. Heavy metals and diazinon monitoring is conducted in the San Diego Bay WMA. Sediment and vegetation monitoring occurs in Los Peñasquitos WMA. A summary of TMDL-related monitoring effort and results are available as part of Water Quality Report Cards produced by the RWQCB (RWQCB 2018).

A suite of environmental monitoring data is available through public and private sources. The Surface Water Ambient Monitoring Program compiles statewide water quality monitoring data (SWRCB 2018a). Environmental groups such as San Diego Coastkeeper also regularly monitor local water bodies (San Diego Coastkeeper 2018). Data from the Surface Water Ambient Monitoring Program, environmental groups, and the City and other Copermittees are uploaded to the California Environmental Data Exchange Network, where it is available to the public (SWRCB 2018b).

In early 2018, the RWQCB requested that Copermittees, including the City, submit all current geographic information system (GIS) layers and files used to maintain their MS4 maps to a regional clearinghouse (Responsible Agencies San Diego County 2018). The information was requested to ensure compliance with the provisions of the Regional MS4 Permit and to increase the RWQCB's understanding of the connectivity between pollutant sources and receiving water quality in the San Diego region. Watershed-based GIS information was compiled and submitted to the RWQCB in March 2018.

5.12.3 REGULATORY SETTING

The City is subject to federal, state, and local/regional requirements. The following sections summarize the water quality regulatory setting for the City.

Federal

Clean Water Act

Increasing public awareness and concern for controlling water pollution led to enactment of the federal Water Pollution Control Act Amendments of 1972. As amended in 1977, this law became commonly known as the Clean Water Act (CWA). The CWA established basic guidelines for regulating discharges of pollutants into the waters of the United States. The CWA requires that states adopt water quality standards to protect public health, enhance the quality of water resources, and ensure implementation of the CWA.

- **Section 401.** Section 401 of the CWA requires an applicant for a federal permit, such as the construction or operation of a facility that may result in the discharge of a pollutant, to obtain certification of those activities from the state in which the discharge originates. This

process is known as the Water Quality Certification for the project. For projects in San Diego County, the San Diego RWQCB issues Section 401 permits.

- **Section 402.** Section 402 of the CWA established the NPDES to control water pollution by regulating point sources that discharge pollutants into waters of the United States. Pursuant to CWA Section 402(p), storm water permits are required for discharges from an MS4 serving a population of 100,000 or more. The SWRCB uses its Municipal Storm Water Program to manage the Phase I Permit Program (serving municipalities more than 100,000 people), the Phase II Permit Program (for municipalities less than 100,000), and the Statewide Storm Water Permit for the California Department of Transportation. The SWRCB and RWQCBs implement and enforce the Municipal Storm Water Program. Specific information related to NPDES permits applicable to the MWMP is presented below.
- **Section 404.** Section 404 of the CWA established a permitting program to regulate the discharge of dredged or filled material into waters of the United States. The definition of waters of the United States includes wetlands adjacent to national waters. This permitting program is administered by the U.S. Army Corps of Engineers and is enforced by the EPA.
- **Section 303(d).** Under Section 303(d) of the CWA, the SWRCB is required to develop a list of water quality limited segments for jurisdictional waters of the United States. The RWQCBs are responsible for establishing the list of water quality limited segments and for developing plans, referred to as Total Maximum Daily Loads (TMDLs), to improve the water quality of water bodies included on the 303(d) list. The 2014 303(d) List of Water Quality Limited Segments is the most recent 303(d) list approved by EPA (SWRCB 2017). The list includes pollutants causing impairment to receiving waters or, in some cases, the condition leading to impairment. Alternative pathways to traditional TMDLs may be considered by the RWQCB for pollutants listed on the 303(d) list.

State

Porter-Cologne Water Quality Control Act

Water quality regulation in California pre-dates the CWA by more than two decades. California's nine RWQCBs were established by the Dickey Water Pollution Control Act of 1949. The Porter–Cologne Water Quality Control Act (Porter–Cologne Act, Division 7 of the California Water Code) was implemented in 1969, and (as amended) remains the basic water quality control law for California. The Porter–Cologne Act established the SWRCB and created a regulatory program to protect water quality and beneficial uses of the state's waters. After the subsequent establishment of the EPA and implementation of the CWA, the EPA delegated authority to the SWRCB and RWQCBs to implement and enforce the CWA and state-adopted Water Quality Control Plans. Most of San Diego County falls within the jurisdiction of the San Diego RWQCB (Region 9). Each RWQCB is responsible for water

quality control planning within its region, including adopting and implementing a Water Quality Control Plan (i.e., Basin Plan).

Waste Discharge Requirements

Actions that involve, or are expected to involve, discharge of waste are subject to water quality certification under Section 401 of the CWA (e.g., if a federal permit is being sought or granted) and/or waste discharge requirements (WDRs) under the Porter–Cologne Act. Chapter 4, Article 4 of the Porter–Cologne Act (California Water Code, Sections 13260–13276) states that persons discharging or proposing to discharge waste that could affect the quality of waters of the state (other than into a community sewer system) shall file a report of waste discharge with the applicable RWQCB. For discharges to surface water (i.e., waters of the United States), an NPDES permit is required, which is issued by the RWQCB pursuant to authority delegated by the EPA. The RWQCB regulates discharges to state waters through the issuance of WDRs, including discharges to land (e.g., spoils disposal and storage), erosion from soil disturbance, and discharges to isolated (non-federal) wetlands. WDRs, which are issued exclusively under state law, typically include many of the same BMPs and pollution control technologies as those required by NPDES-derived permits. Further, the WDR application process is generally the same as for CWA Section 401 water quality certification, although in the case of WDRs, it does not matter whether the particular project is subject to federal regulation.

Due to the broad scope of state and federal water quality regulations, the SWRCB and RWQCBs have developed general WDRs specific to activities that involve similar types of discharges and thus also require similar types of pollution control. This is the focus of the various storm water programs administered by the SWRCB and RWQCB, such as the construction storm water program, the industrial stormwater program, and the municipal storm water program. RWQCBs, including the San Diego RWQCB, also have the authority to implement general permits to multiple permittees, and to provide for waivers of WDRs. These are listed in the following section.

- **San Diego Region MS4 Permit (RWQCB Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100):** The San Diego Region MS4 Permit, or MS4 Permit, grants the San Diego RWQCB authority to regulate discharges from Phase I MS4s. The primary purpose of the MS4 Permit is to establish the conditions under which pollutants can be discharged from the storm drain system to local streams, coastal lagoons, and the ocean; thus, protecting local water bodies from pollutants without being treated. The MS4 Permit implements requirements of the CWA and federal NPDES storm water regulations. Under this permit, each municipality has the following responsibilities:
    - Identify major outlets and pollutant loadings;

- Detect and eliminate all non-storm-water discharges to the system, except as specifically exempted;
- Prevent and reduce pollutants in runoff from industrial, commercial, and residential areas through the implementation of BMPs;
- Control storm water discharges from new development and redevelopment;
- Inspect industrial, commercial, and construction activities;
- Provide pertinent education and promote public reporting of pollution; and
- Monitor discharges and impacts on receiving waters.

BMP design practices and associated standards are incorporated into the City of San Diego Storm Water Standards Manual (City of San Diego 2018a), which is periodically updated to reflect the currently adopted MS4 Permit. Per the MS4 Permit, the City also developed a jurisdictional runoff management plan, and participated in development of multi-jurisdictional WQIPs, which are required for each WMA.

- **Statewide Construction General Permit (SWRCB Order No. 2009-0009-DWQ, as amended):** For storm water discharges associated with construction activity in the State of California, the SWRCB has adopted the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) in order to avoid and minimize water quality impacts attributable to such activities. The Construction General Permit applies to all projects in which construction activity disturbs 1 acre or more of soil.

  Although a SWPPP would not be required for routine maintenance activities, BMPs would be implemented as a part of the program. EPA defines BMPs as "schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of Waters of the United States." BMPs include "treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage" (40 CFR 122.2).

- **Statewide General National Pollutant Discharge Elimination System (NPDES) Permit for Residual Aquatic Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications (SWRCB Order No. 2013-0002-DWQ, General Permit No. CAG990005):** The discharge of algaecides and aquatic herbicides and their residues to surface waters for algae and aquatic weed control throughout the State of California may pose a threat to existing and potential beneficial uses of waters of the United States if not properly controlled and regulated. This General Permit regulates the discharge of aquatic pesticides used for algae and aquatic weed control to waters of the United States. This General Permit covers the point source discharge to waters of the United States of

residues resulting from pesticide/herbicide application. This General Permit does not cover agricultural storm water discharges or return flows from irrigated agriculture because these discharges are not defined as point sources and do not require coverage under an NPDES permit. This General Permit also does not cover other indirect or nonpoint source discharges from applications of algaecides and aquatic herbicides, including discharges of pesticides to land that may be conveyed in storm water or irrigation runoff.

Resource Agency Permit Requirements

Fish and Game Code Section 1602, Lake and Streambed Alteration Program, requires an entity to notify the California Department of Fish and Wildlife prior to commencing any activity that may do one or more of the following: substantially divert or obstruct the natural flow of any river, stream, or lake; substantially change or use any material from the bed, channel or bank of any river, stream, or lake; or deposit debris, waste or other materials that could pass into any river, stream or lake. The Regional Board administers the 401 Water Quality Certification and Wetlands Program, which regulates discharges of fill and dredged material under CWA Section 401 and the Porter-Cologne Water Quality Control Act.

Inland Surface Waters, Enclosed Bays, and Estuaries Plan

The *Water Quality Control Plan for Inland Surface Waters, Enclosed Bays and Estuaries of California* (ISWEBE) establishes provisions for water quality and sediment quality that apply to all inland surface waters, enclosed bays, and estuaries of the state, including waters of the United States and surface waters of the state. The provisions contained in the ISWEBE do not apply to ocean waters in California, such as Monterey Bay or Santa Monica Bay. Similar to the *Water Quality Control Plan for Ocean Waters of California* (Ocean Plan), the requirements of the ISWEBE are implemented through the issuance of NPDES permits or other regulatory approaches, with the goal being to achieve water quality standards.

Statewide Trash Amendments

In 2015, the SWRCB adopted, and the Office of Administrative Law approved, an *Amendment to the Water Quality Control Plan for Ocean Waters of California to Control Trash and Part 1 Trash Provision of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries*. Collectively, these documents are referred to as the "Trash Amendments" and are intended to provide statewide consistency in governing trash control (SWRCB 2015).

The Trash Amendments provide a framework for implementing land-use-based compliance approaches into the respective NPDES storm water discharge permits; WDRs; and waivers of WDRs for municipal systems, the California Department of Transportation, industrial sites, and

construction sites. The land-use-based approach targets high-trash-generating areas, such as high-density residential, industrial, commercial, mixed urban, and public transportation land uses (Priority Land Uses), and includes two compliance tracks. Under Track 1, permittees can elect to install a network of full-capture systems to remove trash conveyed via the MS4 from priority land-use areas. Track 2 allows permittees to use any combination of controls (structural and/or institutional) anywhere in their jurisdiction, as long as it can be demonstrated that the system performs as well as Track 1.

The City submitted a *Track 2 Implementation Plan* to the RWQCB on December 3, 2018. The Track 2 approach includes the following:

- Phased and adaptive installation of full-capture systems in Priority Land Use areas in targeted WMAs.
- Implementation of enhanced WQIP programs (e.g., catch basin cleaning and street sweeping).
- Implementation of additional institutional (i.e., nonstructural) programs and policies designed to reduce and control trash throughout the City (e.g., cleanup events, ordinances, and channel cleaning programs).

Requirements of the Trash Amendments are expected to be implemented through reissuance of the San Diego Region MS4 Permit and require full compliance with the trash discharge prohibition within 10 years of the effective date of the first implementing permit, or 15 years from the effective date of the Trash Amendments (i.e., December 2, 2030).

California Toxics Rule and State Implementation Policy

In 2000, the EPA promulgated statewide numerical water quality standards for toxic constituents that apply to California's inland surface waters, enclosed bays, and estuaries (California Toxics Rule, 40 CFR 131.38). The Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California (State Implementation Policy, or SIP) was adopted by the SWRCB on March 2, 2000, and amended in February 2005. The SIP, as amended:

- Establishes a standardized approach for permitting discharges of priority toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency.
- Applies to discharges of priority toxic pollutants into the inland surface waters, enclosed bays, and estuaries of California, subject to regulation under the state Porter-Cologne Act (California Water Code, Division 7) and the federal CWA.

- Implements priority pollutant criteria (federally established through the California Toxic Rule) through NPDES permits as required by the CWA, Section 402, for point-source discharges to surface waters.

The requirements in the SIP are implemented through SWRCB or RWQCB activities such as the issuance of NPDES permits or other relevant regulatory approaches, to ensure achievement of water quality standards (i.e., water quality criteria or objectives, the beneficial uses being protected, and corresponding state and federal antidegradation policies).

Water Quality Control Plan for the Ocean Waters of California (Ocean Plan)

The SWRCB has established objectives for the protection of marine water quality in the *Water Quality Control Plan for the Ocean Waters of California* (Ocean Plan; SWRCB 2015). The Ocean Plan:

- Establishes receiving water quality standards and discharge prohibitions to protect designated beneficial uses of ocean waters.
- Establishes technology-based effluent standards applicable to all discharges of wastewater to the ocean.
- Establishes implementation policies and procedures for point source and non-point source discharges to ensure compliance with the water quality standards and to protect beneficial uses.

The Ocean Plan establishes water quality objectives for protection of marine aquatic life, human health-noncarcinogens, and human health-carcinogens and identifies Areas of Special Biological Significance (ASBS) as a beneficial use for ocean waters (SWRCB 2012a). State Water Quality Protection Areas consisting of ASBS include special water quality protections prohibiting the discharge of waste (Ocean Plan 2012). These receiving water standards are listed in Table 1 of the Ocean Plan. The requirements in the Ocean Plan are implemented through SWRCB or RWQCB activities, such as the issuance of NPDES permits, or other relevant regulatory approaches to ensure achievement of water quality standards (i.e., water quality criteria or objectives, beneficial uses being protected, and corresponding state and federal antidegradation policies).

California Coastal Act

The California Coastal Act (1976) is the primary law governing the California Coastal Commission. The Coastal Commission was created in 1972 following implementation of the California Coastal Zone Conservation Act (Proposition 20), a temporary measure passed by voters. One of the main goals of the Coastal Act is to "protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources." In addition, the

Coastal Act encouraged local governments to create Local Coastal Programs (LCPs) and locally manage conservation of coastal resources. The MWMP program area is affected by the Coastal Act provisions, including Article 4, which involves protection of the marine environment including water quality issues, and Article 5, which includes protections for environmentally sensitive habitat.

Local

Water Quality Control Plan for the San Diego Basin (Region 9)

The federal CWA, NPDES program, California Water Code, and Porter–Cologne Act require that the RWQCB adopt a Water Quality Control Plan to guide and coordinate the management of water quality in the region. The Water Quality Control Plan for the San Diego Basin (Region 9), referred to as the Basin Plan, (1) designates beneficial uses of surface water and groundwater within each watershed of the San Diego region, (2) establishes water quality objectives (WQOs) to protect the designated beneficial uses, and (3) establishes implementation policies to achieve the objectives.

The Basin Plan, which was created in 1994 and most recently updated in 2016 by the San Diego RWQCB, includes WQOs expressed as levels of water quality constituents or characteristics that must be met to protect the beneficial uses, and an implementation program to maintain the designated beneficial uses and WQOs. Monitoring programs are included to assess the effectiveness of the Basin Plan.

Water Quality Improvement Plans for the San Diego MS4 Permit

The Regional MS4 Permit required the development and implementation of WQIPs for each WMA in the region. In accordance with the Regional MS4 Permit, WQIPs were collaboratively prepared by the Copermittees with responsibility for storm water management within each WMA. The WQIP development process involved assessing priority water quality conditions, identifying the Highest Priority Water Quality Conditions, identifying water quality numeric goals and schedules for achieving the goals, selecting water quality improvement strategies to address the sources of pollutants contributing to Highest Priority Water Quality Conditions, developing a monitoring and assessment program, and developing an adaptive management process. The City has jurisdiction in six WMAs and was involved in the development of WQIPs for each of these WMAs (Responsible Agencies San Dieguito WMA 2015; Responsible Agencies Los Peñasquitos WMA 2015; Responsible Agencies Mission Bay WMA 2016; Responsible Agencies San Diego River WMA 2016; Responsible Agencies San Diego Bay WMA 2016; Responsible Agencies Tijuana River WMA 2016). Summary information from the WQIPs is contained in Section 2.4 and Appendix A of the *Water Quality Technical Analysis Report*, included as Appendix J of this EIR.

Jurisdictional Runoff Management Plan

The JRMP (City of San Diego 2018c) is the City's approach to improving water quality in its rivers, bays, lakes, and ocean through reducing discharges of pollutants to the MS4. The JRMP describes the programs and activities the City performs to improve water quality such as performing routine street sweeping, storm water compliance inspections of businesses, storm drain maintenance, and illicit discharge identification and elimination. Additionally, the storm water BMP requirements for new development, existing development (i.e., industrial, commercial, municipal, and residential land uses), and construction sites are incorporated in the JRMP. Some examples of BMPs include covering potential pollutant sources to prevent contact with rain, employing erosion reduction techniques at construction sites, adjusting sprinklers to eliminate irrigation runoff, sweeping parking lots, and building green infrastructure techniques like planters that capture and treat runoff along streets.

Planned WQIP strategies have been incorporated in the City's JRMP to ensure that the appropriate activity or program includes all planned strategies listed in the City's WQIPs. The strategies listed in the WQIP are necessary to further improve water quality in the region to comply with more stringent regulations, such as TMDLs and Special Protections for Areas of Special Biological Significance, which are also required by the MS4 Permit.

The MWMP would operate under Section 7.3.13 of the JRMP (Storm Drain Conveyance System Operations and Maintenance) to provide an organized approach for maintaining the City's storm water conveyance system. Channel segments may require periodic maintenance to alleviate flooding concerns, threats to public and private property, and public safety may be necessary. BMP requirements in the JRMP and the City of San Diego Storm Water Standards Manual (City of San Diego 2018a) apply to storm water conveyance system maintenance.

City of San Diego Storm Water Standards Manual

Storm water BMP standards for City projects are outlined in the City's Storm Water Standards Manual (City of San Diego 2018a). The Storm Water Standards Manual constitutes the City's implementation of the Regional MS4 Permit and Storm Water Management and Discharge Control Ordinance (San Diego Municipal Code Section 43.0301 et seq.). Specific requirements for implementing BMPs vary based on the project type and amount of impervious surface proposed.

The City's Storm Water Requirements Applicability Checklist (Form DS-560) is used to determine whether a project is a priority development project; a standard development project; or exempt from permanent, post-construction storm water BMP requirements (City of San Diego 2018a). Post-construction BMP requirements in the Storm Water Standards Manual and the Regional MS4 Permit apply to new development or significant redevelopment projects that exceed size thresholds and/or fit under specific use or location categories. The size threshold is typically the amount of impervious

area added and/or replaced. An additional criteria requires post-construction BMPs when a project results in disturbance of 1 or more acres of land and is expected to generate pollutants post-construction (even if there is no addition or replacement of impervious area). The proposed channel maintenance activities are not anticipated to add impervious areas and/or expected to generate pollutants post-construction, so the post-construction BMP requirements in the Storm Water Standards Manual do not apply.

The Storm Water Standards Manual contains minimum requirements for implementing construction-phase storm water BMPs, which would apply to maintenance activities at MWMP facilities (City of San Diego 2018a). Minimum construction-phase-related BMPs, which all public and private development projects must implement, are required by the Storm Water Standards Manual regardless of whether they require coverage under the state's Construction General Permit (SWRCB 2012b; Storm Water Standards Manual Part 2). Proposed maintenance activities to be conducted for the MWMP are not covered under the Construction General Permit, since these activities consist of "routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility" (SWRCB 2012b). However maintenance activities to be conducted for the MWMP are subject to City-specific requirements for construction site pollution prevention and runoff management. For projects not subject to the Construction General Permit, the City's Storm Water Standards Manual requires development of a *Water Pollution Control Plan* (WPCP), which outlines the BMPs and pollution prevention measures that would be implemented for that project (City of San Diego 2018a; Storm Water Standards Manual Part 2 - Section 4.2). Typical WPCP BMPs include erosion controls, sediment controls, non-storm-water discharge prevention, materials and waste management, particulate and dust control, and final stabilization.

A facility-specific WPCP would be developed for each MWMP facility prior to maintenance. An MWMP-focused WPCP working document has been developed by the City to tailor facility-specific water quality conditions and BMP requirements, as applicable for the actual maintenance procedures that would be performed. In addition, the facility-specific MWMP WPCP would incorporate water quality protection measures required as conditions of the various resource agency permits.

City Storm Water Runoff and Drainage Regulations

Drainage regulations are enforced under Land Development Code Sections 142.0201 to 142.0230 (Storm Water Runoff and Drainage Regulations). The primary purpose of drainage regulations is to regulate the development of, and impacts to, drainage facilities; to limit water quality impacts from development; to minimize hazards due to flooding while minimizing the need for construction of flood control facilities; to minimize impacts to environmentally sensitive lands; to implement the provisions of federal and state regulations; and to protect the public health, safety, and welfare. The drainage regulations apply to all development in the City, whether or not a permit or other approval is required.

City Storm Water Management and Discharge Control Ordinance

The purpose of San Diego Municipal Code Sections 43.0301 to 43.0312 (Stormwater Management and Discharge Control) is to restore and maintain the water quality of receiving waters and further ensure the health, safety, and general welfare of the citizens of the City. The ordinance prohibits non-storm-water discharges, including spills, dumping, and disposal of materials other than storm water to the MS4, and reduces pollutants in discharges from the MS4 to receiving waters, to the maximum extent practicable, in a manner consistent with the CWA. The ordinance also requires the implementation of BMPs required in the JRMP, including erosion and sediment control BMPs as required by the Storm Water Standards Manual, and describes enforcement authorities and remedies that can be used in instances of noncompliance.

Watershed Asset Management Plan

The City developed a *Watershed Asset Management Plan* to document the current state of assets (e.g., asset inventory, valuation, condition, risk) and to project the long-range asset renewal (rehabilitation and replacement) requirements. The City *Watershed Asset Management Plan* is a long-range planning document used to provide a rational framework for understanding and planning the asset portfolio. The 2013 *Watershed Asset Management Plan* consolidated asset information into a structured framework and used it to provide a justifiable basis to support long-term organization, operations, and asset management decisions (City of San Diego 2013b). A cost update to the *Watershed Asset Management Plan* was completed in 2017 (City of San Diego 2017).

5.12.4 THRESHOLDS OF SIGNIFICANCE

The *City of San Diego's California Environmental Quality Act (CEQA) Significance Determination Thresholds* (City of San Diego 2016) and Appendix G of the CEQA Guidelines contain significance guidelines related to water quality. The following questions are from the City's Significance Thresholds and provide guidance to determine potential significance for water quality impacts:

Issue 1: Would the project adhere to the City's Storm Water Standards Manual (provided in City of San Diego 2018a)?

Issue 2: Would the project otherwise substantially degrade water quality?

Water quality conditions were evaluated within the context of the proposed maintenance activities to assess the potential for short- and long-term impacts to water quality, as described in the following sections. Within the context of the MWMP, short-term and long-term impacts to water quality standards were evaluated as potential results of MWMP activities.

5.12.5 APPROACH AND METHODOLOGY

The activities proposed in the MWMP were developed with the goal of avoiding and minimizing potential impacts to water quality. As such, the following Environmental Protocols (EPs) are identified as part of the proposed MWMP because these specific proposed activities serve to reduce impacts to water quality.

Environmental Protocol

EP-WQ-1 **Water Pollution Control Plan.** The City of San Diego (City) Storm Water Standards Manual require the development of a *Water Pollution Control Plan* (WPCP) that outlines the best management practices (BMPs) and pollution prevention measures that shall be implemented prior to and during maintenance activities (hereafter referred to as "facility water quality protection BMPs"). A *Municipal Waterways Maintenance Plan* (MWMP) facility-specific WPCP shall be developed prior to maintenance, using the WPCP Guidance Document specific to the MWMP. These facility-specific WPCPs shall be tailored to address facility-specific water quality conditions and BMP requirements based on the actual maintenance procedures that will be performed and the location of the Multi-Habitat Planning Area (MHPA) boundary. BMPs shall ensure no trash, oil, parking, or other maintenance-related material/activities adversely affect the MHPA preserve. The BMP categories that shall be addressed in each WPCP include the following:

- Project planning
- Good site management "housekeeping"
- Non-storm water management
- Erosion control
- Sediment control
- Run-on and run-off control

Consistent with the City Storm Water Standards Manual and other regulatory requirements, each WPCP shall include objectives, responsibilities, and maintenance and inspection standards to ensure adherence to pollution prevention standards.

5.12.6 IMPACTS

As described in Chapter 4, Project Description, the MWMP provides a description of maintenance and repair activities and supporting implementation methods. The majority of these activities are routine and anticipated to occur in conformance with specific FMPs included in the MWMP (Appendix A). Routine

refers to typical activities that occur on a regular, ongoing basis and are associated with maintaining storm water infrastructure. However, additional activities not identified in an FMP may be required and may occur anywhere within the City's storm water conveyance system.

Potential site-specific impacts associated with implementation of MWMP activities and methods as identified in the FMPs are described below under the "Project-Level Analysis (FMPs)" heading for each of the issues identified. As further detailed in Chapter 4, Project Description, MWMP activities consist of maintenance and repair activities. Maintenance activities include vegetation and invasive plant species management, sediment/debris removal, structural/debris/trash-fence clearing, and culvert clearing. Repair activities include concrete (minor and major) and bank repair, and structural/debris/trash-fence repair.

Potential impacts associated with implementation of additional MWMP activities and methods (e.g., minor maintenance, changed conditions/new or substantially amended FMPs, compensatory mitigation sites, and emergency maintenance) are identified under Section 5.12.7, Program-Level Analysis (Other MWMP Activities). These impacts are analyzed to the extent feasible at this time; however, additional project-level CEQA analysis and/or new or amended permits may be required prior to implementation.

Issue 1: Would the project adhere to the City's Storm Water Standards Manual (City of San Diego 2018a)?

Project-Level Analysis (FMPs)

Potential Short-Term Impacts

Temporary, short-term, maintenance-related impacts during MWMP maintenance activities have the potential to cause increases in pollutant discharge to surface waters and/or groundwater. Where applicable and during dry conditions where no vegetation is present and appropriate permits are in place, concrete, shotcrete, gunite, and/or riprap to repair or replace existing hardscape structures and bank repair may occur. These impacts would be confined primarily to the duration of individual maintenance activities, would be geographically dispersed within individual drainages, and generally would not occur simultaneously. Temporary work areas would be located to maximize the use of existing access and staging areas and previously disturbed land where feasible. Any new disturbances of native soil and vegetation would be generally confined to areas on the edges of existing access and staging areas, and storm water facilities. However, due to the proximity to water bodies and magnitude of ground-disturbing activities, proposed maintenance activities could result in discharges of excess sediment into facilities and downstream areas.

Proposed ground-disturbing activities would include sediment excavation/removal, vegetation management, bank maintenance and repair, temporary stockpiling, sediment and vegetation disposal, and temporary access/loading and staging activities. Removal of vegetation may leave areas of exposed soil, which may subsequently erode and lead to sedimentation of downstream receiving waters. Diversions of dry-weather flows and accumulated storm water also have the potential to cause temporary impacts due to sediment disturbance.

Sediment discharges are considered to be the primary source of potential pollutants contributed by maintenance activities with the potential to impact water quality. As such, sediment and sediment-related impairments (i.e., sedimentation, siltation, turbidity) would be an important component of BMP implementation efforts. Other potential construction-related impacts may exist related to waste management (trash) and spills or leaks from construction equipment and vehicles (oil and grease, hazardous substances). Potential improper handling or application of herbicides for invasive species management could also negatively affect biological resources and aquatic habitats.

Ground-Disturbing Activities

MWMP maintenance activities that disturb ground surfaces could potentially increase sediment levels in storm water runoff by eroding soils that have been loosened or newly exposed by maintenance activities. Increased sediment levels in storm water runoff could exacerbate existing water quality problems in sediment-impaired waters and/or Environmentally Sensitive Areas. Proposed MWMP maintenance activities involving ground disturbance resulting in exposed soil include sediment/debris removal, vegetation management, bank repair, and invasive plant species management.

Spills and Leaks

Incidental spills and leaks of hazardous substances from construction vehicles, heavy equipment, and maintenance equipment, such as pumps, could contaminate the facility, staging, and access areas, or off-site areas, resulting in a violation of water quality standards/WDRs and adverse impacts to beneficial uses. Hazardous substances that could spill or leak include diesel fuel, gasoline, lubricants, cement slurry, hydraulic fluid, antifreeze, transmission fluid, lubricating grease, and construction-related trash and debris. Due to the nature of proposed maintenance activities, only minor quantities of these materials would be required in any one work area along the system of facilities. The amount used would be the minimum necessary to fuel vehicles, power equipment, and complete maintenance activities. Improper management of hazardous materials could result in accidental spills or leaks, which could locally contaminate either shallow groundwater (if present) or adjacent receiving waters.

Improper handling and disposal of cement slurry and concrete waste during concrete repairs could result in discharges of high pH materials to soils on site or off site, and to surface waters, potentially resulting in a violation of water quality standards and increased pollutant discharge to receiving waters.

Application and Handling of Herbicides

Application of herbicides may be used as part of MWMP vegetation management procedures to control invasive species (i.e., to remove and prevent re-growth of Arudo). Herbicides may be applied close to sensitive aquatic habitats. Potential accidental release, improper handling, or misapplication of herbicides could violate water quality standards and impair beneficial uses of receiving waters, resulting in a significant adverse impact. However, the City is required to apply herbicides in accordance with the Statewide NPDES Permit for Residual Aquatic Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications (SWRCB Order No. 2013-0002-DWQ, General Permit No. CAG990005) to ensure that proposed MWMP maintenance activities are developed and conducted in a manner to avoid increases in pollutant discharge to receiving waters, including already impaired waters or Environmentally Sensitive Areas, during or following vegetation management. The discharge of residual algaecides and aquatic herbicides must meet applicable water quality standards, and dischargers would implement BMPs when applying these substances. The BMPs must be detailed in an *Aquatic Pesticide Application Plan*, which must be submitted to the San Diego RWQCB at least 90 days prior to the expected day of permit coverage.

Regulatory Compliance and Proposed MWMP Protocols

The City has storm water standards in place (City of San Diego 2018a) to ensure that proposed MWMP maintenance activities are developed and conducted in a manner that avoids increases in pollutant discharge to receiving waters and/or groundwater. Pollutant discharge includes downstream sedimentation during or following maintenance. Also, compliance with the storm water standards would ensure that proposed MWMP maintenance activities are properly implemented to protect surface water quality and avoid violation of water quality standards or WDRs.

Storm water BMP standards for City projects are outlined in the Storm Water Standards Manual, which constitutes the City's implementation of the San Diego Region MS4 Permit (Order No. R9-2013-0001, as amended) and Storm Water Management and Discharge Control Ordinance. Specific requirements for implementation of BMPs vary based on the project type and the amount of impervious surfaces proposed.

The City's Storm Water Requirements Applicability Checklist (Form DS-560) is used to determine whether a project is a priority development project, a standard development project, or exempt from permanent, post-construction storm water BMP requirements. Consistent with the state's Construction General Permit (Order 2012-0006-DWQ, NPDES No. CAS000002) and the City's Storm

Water Standards Manual, the MWMP is exempt from permanent, post-construction BMP requirements because the MWMP program consists of routine maintenance activities and no additional impervious area is proposed. However, the Storm Water Standards Manual contains minimum requirements for implementation of construction-phase-related storm water BMPs, and these would apply to all MWMP facilities.

For activities not subject to the Construction General Permit, the City's Storm Water Standards Manual require the development of a *Water Pollution Control Plan* (**EP-WQ-1**), which outlines the BMPs and pollution prevention measures that would be implemented (hereafter referred to as "facility water quality protection BMPs"). The facility water quality protection BMPs are similar to the general water quality BMPs required under the Construction General Permit. Facility-specific WPCPs would be developed prior to maintenance using the WPCP guidance document specific to the MWMP (City of San Diego 2018a). These facility-specific WPCPs would be tailored to address facility-specific water quality conditions and BMP requirements based on the actual maintenance procedures that would be performed. The following BMP categories would be addressed in each WPCP:

- Project planning
- Good site management "housekeeping"
- Non-storm water management
- Erosion control
- Sediment control

Run-on and run-off control The MWMP WPCP Guidance Document has been developed to be consistent with the requirements of the City's Storm Water Standards Manual (City of San Diego 2018a), as appropriate for maintenance activities conducted under the MWMP. The Storm Water Standards Manual identifies that permanent post-construction storm water requirements are not applicable to maintenance activities. Post-construction BMP requirements in the Storm Water Standards Manual and the San Diego Regional MS4 Permit apply to new development or significant redevelopment projects that exceed size thresholds and/or fit under specific use or location categories. The size threshold is typically the amount of impervious area added and/or replaced. Additional criteria requires post-construction BMPs when a project results in disturbance of 1 or more acres of land and is expected to generate pollutants post construction (even if there is no addition or replacement of impervious area). The proposed channel maintenance activities are not anticipated to add impervious areas or expected to generate pollutant post construction, so the post-construction BMP requirements in the Storm Water Standards Manual do not apply.

In addition, the MWMP WPCPs would incorporate water quality protection measures required as conditions of the various resource agency permits, including the California Coastal Commission Coastal

Development Permit, San Diego RWQCB 401 Water Quality Certification, U.S. Army Corps of Engineers Section 404 Permit, and California Department of Fish and Wildlife Streambed Alteration Agreement.

Information used to evaluate facility-specific conditions and selection of appropriate facility water quality protection BMPs includes field surveys, the *Hydrology and Hydraulics Technical Report*, and the water quality data compilation. Relevant information includes evidence/severity of erosion, presence of sensitive species/habitat, location of Environmentally Sensitive Areas, relevant 303(d) listings, designated beneficial uses (including the RARE beneficial use), identification of staging and access areas, proposed maintenance methods and area limits, and other information.

Facility information is summarized in the water quality section of each MWMP FMP (see Appendix A of the MWMP). Proposed BMP locations would be developed as part of the facility-specific WPCP, as appropriate for facility-specific conditions and type of maintenance activities to be performed, and in accordance with the MWMP WPCP Guidance Document (Appendix B). The type and location of proposed BMPs to be implemented would be re-evaluated prior to repeated maintenance activities to ensure that the proposed BMP implementation efforts are adequate and properly selected and located to avoid and/or minimize substantially adverse impacts and protect water quality.

Table 4-1 in the *Water Quality Technical Analysis Report* (Appendix J) provides the list of MWMP facilities proposed for maintenance and indicates where facility water quality protection BMPs are proposed for implementation. This table reflects where facility water quality protection BMPs would be implemented.

Although maintenance-related impacts such as ground disturbance, sediment handling, temporary flow diversions, and accidental spills or leaks of herbicides or petroleum have the potential to adversely affect water quality, compliance with the City's Storm Water Standards Manual (City of San Diego 2018a) and WPCP requirements are adequate to ensure potential maintenance-related impacts to water quality are avoided or substantially minimized. Implementation of the facility-specific MWMP WPCPs (**EP-WQ-1**) would minimize or avoid potential water quality impacts associated with facility maintenance. Impacts to receiving waters would be reduced during and following maintenance.

In summary, the MWMP WPCP Guidance Document will allow facility-specific WPCPs to be designed so that maintenance practices are properly implemented to maintain compliance with Storm Water Standards Manual and related Regional MS4 Permit provisions, avoid violations of water quality standards (i.e., beneficial uses, water quality criteria or objectives to protect the beneficial uses, and state and federal anti-degradation policies) or WDRs, and protect receiving waters from adverse impacts to beneficial uses. For facilities where BMPs are proposed, short-term water quality impacts would be **less than significant** with implementation of **EP-WQ-1**, and no mitigation is required.

Issue 2: Would the project otherwise substantially degrade water quality?

Project-Level Analysis (FMPs)

Potential Long-Term Impacts

Proposed MWMP facility maintenance activities where potential long-term impacts may occur would include vegetation management, sediment/debris removal, drain structure/structural clearing, and invasive plant species management. Activities may be performed within and adjacent to earthen-bottom and concrete-lined facilities, and have potential for impacts to water quality and receiving water conditions. Potential long-term direct and indirect impacts may occur if MWMP activities result in substantial degradation of water quality. In watershed systems, wetland vegetation, channel configuration, and biological conditions contribute to water quality and downstream receiving water conditions.

In undisturbed watershed areas, wetland vegetation, channel configuration, and biological conditions can have positive impacts to water quality by spreading out and slowing down flows, providing shading, allowing for nutrient uptake, and reducing potential for anthropogenic sources of erosion and sediment transport. Certain wetland vegetation species and plant density types can function to trap and prevent sediment from affecting downstream environments. Shading can result in moderated water temperature and decreased algal growth. Wetlands vegetation may also provide flow attenuation and pollutant uptake capability under certain hydrologic, soil, and chemical conditions. The relative importance of these factors may shift in disturbed watershed areas. Combined, the presence and interaction of certain vegetation and soils within appropriately configured facility areas and healthy biological communities potentially provide for long-term water quality benefits.

Quantification of potential long-term water quality impacts resulting from channel maintenance activities in undisturbed and disturbed watersheds requires evaluation of multiple site-specific factors. Site-specific condition evaluation of hydrology, soil, and vegetation composition is needed to assess potential facility water quality and/or pollutant removal benefits. Hydrology characteristics include residence time of stream flow within a defined channel area, hydroperiod or the seasonal pattern of water level, and water depth. Soil characteristics including the presence of hydric soils (i.e., soils that are permanently or seasonally saturated by water), grain size, compaction, soil inorganic chemistry, redox potential, ion exchange capacity, pH, conductivity, composition of organic matter, microbial community composition, soil biological organism concentration, and function all can potentially impact site-specific pollutant removal capacity. Additionally, wetlands vegetation composition characteristics such as species diversity, density, and age may all independently or collectively impact water quality. Watershed-scale factors, such as urbanization and associated

hydromodification and/or pollutant loading, may influence the capacity of wetlands vegetation to uptake pollutants and provide for pre-maintenance water quality benefits in MWMP facilities.

Potential long-term impacts to water quality may occur if MWMP activities would otherwise degrade water quality. The potential for proposed MWMP maintenance to result in long-term degradation of water quality is reduced by the following approach:

1. The MWMP incorporates avoidance and minimization of impacts by using hydrology-based data to minimize maintenance to only those areas where maintenance provides a reduction in flood risk. This approach is also coordinated with the City's Watershed Master Plans and WQIPs to plan for integrated flood management and water quality improvements. For example, if improvements are planned in the near future, proposed maintenance may be reduced. These integrated aspects of the MWMP development and design results in reduced maintenance and therefore reduces the potential for long-term water quality degradation.
2. Where maintenance or repair activities results in unavoidable wetland impacts, the City would implement compensatory wetlands mitigation at established ratios, pursuant to the City of San Diego Biology Guidelines, and as disclosed in Appendix D to this EIR (**MM-BIO-1a**). Wetlands mitigation would provide compensation for the loss of functions and values that may result from maintenance or repair activities. The established ratios account for the multiple functions that wetlands can support, including those associated with pollutant assimilative capacity losses and temporal loss (e.g., time between impact and establishment of functioning habitat). The established mitigation ratios are also sufficient to mitigate wetland area and function in typical development scenarios where wetlands are fully removed and constructed over (e.g., development over a previous wetland area and storm water is then conveyed in an underground piped system). In the case of waterways maintenance, the underlying conditions that can support wetlands (e.g., drainage topography, water source, buffer conditions) still remain after maintenance/repair occur and therefore the area maintained will likely continue to provide wetland functions. Nonetheless, **MM-BIO-1a** requires implementation of mitigation at the full ratios used for all types of development.

This approach is expected to reduce the potential for long-term degradation of water quality because, for most MWMP activities, impacts to wetlands are avoided; and any unavoidable impact to wetlands are mitigated through implementation of **MM-BIO-1a**. As regulated by the federal, state and local agencies, compensatory mitigation at established ratios and standards appropriately mitigates for wetland impacts, including the loss of wetland functions and values such as pollutant assimilative capacity. In addition, even though compensatory mitigation would be required for the loss of hydrophytic vegetation or hydric soils (on concrete-lined channels), the hydrology would still remain and would still be considered a wetland as defined by the City,

In addition, maintenance proposed at the 10 structural facility group FMPs and non-jurisdictional (i.e., isolated) basins that do not flow directly to downstream waters (e.g., Miramar-Engineer and Tijuana River-Siempre Viva facility groups) would have low likelihood of resulting in significant long-term water quality impacts due to limited wetlands vegetation loss and/or limited capacity for adverse downstream effects.

One situation may arise in which MWMP activities would have the highest likelihood of resulting in long-term degradation of water quality: namely, when maintenance results in the loss of jurisdictional wetlands and implementation of compensatory wetlands mitigation is delayed. The standard mitigation ratios account for a temporal loss that typically is about 5 years (i.e., impact occurs in Year 0, mitigation is constructed/establish between Year 0 and 1, and mitigation is fully functioning around Year 5). If mitigation is not constructed at the time of maintenance, there is a potential that mitigation may not be fully functioning within a 5-year timeframe. To provide a further offset to this potential impact, the City has developed a suite of additional water quality activities to provide offsetting water quality benefits in situations where wetlands mitigation has not been constructed at the time maintenance occurs.

It is understood that facility maintenance may differentially impact potential pollutant assimilative capacity dependent on diverse existing conditions. Accordingly, available data was used to estimate pollutant load reductions for the proposed water quality mitigation measures (*Water Quality Technical Analysis Report*, Appendix J). Proposed MWMP water quality mitigation includes maintenance-activity-specific outreach, enhanced catch basin cleaning, street sweeping, and/or select green infrastructure.

The proposed level of implementation of beneficial water quality activities was developed using an impact-based approach and modeled pollutant load reductions for selected beneficial water quality activities (*Water Quality Technical Analysis Report*, Appendix J). The impact-based approach uses a formulaic level of implementation based on maintenance event and/or extent of wetlands impact. For maintenance activities that would result in jurisdictional, vegetated wetlands loss, and compensatory mitigation has yet to be constructed at the time of maintenance, one of three equally suitable beneficial water quality activities listed in Section 5.12.9 would be implemented (**MM-WQ-1**). Items 1 or 2 would be implemented each fiscal year that maintenance occurs and Item 3 would be implemented once. No additional water quality activities would be required. Implementation of Items 1, 2, or 3 is independent of required compensatory habitat mitigation to be performed as part of **MM-BIO-1a**. Prior to implementation of **MM-WQ-1** and **MM-BIO-1a**, impacts would be **potentially significant** (**WQ-1**).

5.12.7 PROGRAM-LEVEL ANALYSIS (OTHER MWMP ACTIVITIES)

As discussed above for project-level facilities, programmatic MWMP maintenance activities that would disturb ground surfaces could potentially increase sediment levels in storm water runoff by eroding soils that have been loosened or newly exposed by maintenance activities. Increased sediment levels in storm water runoff could exacerbate existing water quality problems in sediment-impaired waters and/or Environmentally Sensitive Areas.

Programmatic activities would include minor maintenance activities, new or substantially amended FMPs, new compensatory mitigation sites (see Section 5.3, Biological Resources), and emergency maintenance or repair. New or amended FMPs would be required to demonstrate substantial conformance with the MWMP and this EIR to ensure implementation of mitigation measures and consistency with agency regulations. For activities that cannot demonstrate substantial conformance, separate CEQA documentation and permitting may be required.

Emergency activities may be initially authorized through established emergency procedures, but would require after-the-fact approvals in accordance with the appropriate process for that activity/facility. Based on substantial conformance review, emergency activities would either be determined consistent with the MWMP and EIR on a project level or on a program level, and mitigation would be applied accordingly. For activities that cannot demonstrate substantial conformance, separate CEQA documentation and permitting may be required.

After programmatic activities have been reviewed for conformance with the MWMP and this EIR, site-specific WPCPs would be prepared consistent with the City's Storm Water Standards Manual (**EP-WQ-1**) that outline the BMPs and pollution prevention measures that would be implemented. Facility-specific WPCPs would be developed prior to maintenance, using the WPCP Guidance Document specific to the MWMP (City of San Diego 2018a). These facility-specific WPCPs would be tailored to address facility-specific water quality conditions and BMP requirements based on the actual maintenance procedures that would be performed. Therefore, compliance with the City's Storm Water Standards Manual and preparation of site-specific WPCPs would ensure impacts from programmatic activities would be **less than significant**.

Regarding Issue 2, similar to project-level maintenance activities, program-level activities would be designed to avoid impacts to wetlands and therefore avoid potentially significant long-term water quality impacts. Where program-level activities result in unavoidable removal of wetlands, compensatory wetlands mitigation would be required (**MM-BIO-1a**)**.** In the situation where compensatory wetlands mitigation has not been constructed at the time of maintenance, **potentially significant** (**WQ-1**) long-term impacts to water quality would be further offset by implementation of one of three, equally suitable beneficial water quality activities (**MM-WQ-1**).

5.12.8 SIGNIFICANCE OF IMPACT

As discussed under Issue 1, maintenance-related impacts such as ground disturbance, sediment handling, and temporary flow diversions have the potential to adversely affect water quality. Compliance with the City's Storm Water Standards Manual and WPCP requirements are adequate to ensure potential maintenance-related impacts to water quality are avoided or substantially minimized. Implementation of the facility-specific WPCPs (**EP-WQ-1**) through implementation of the MWMP WPCP Guidance Document would minimize or prevent potential short-term water quality impacts associated with project- and/or program-level facility maintenance. Impacts would be **less than significant**.

Where maintenance results in wetland impacts, the City plans to implement stream restoration/biological compensatory wetlands mitigation at established ratios (see Section 5.3, Biological Resources). Compensatory wetlands mitigation provides compensation for the loss of functions and values in disturbed wetlands areas. The established ratios account for unavoidable wetland impacts, including those associated with pollutant assimilative capacity losses, and therefore reduce potential long-term water quality impacts. For those projects that would result in loss of jurisdictional, vegetated wetlands and mitigation has not initiated construction at the time maintenance is completed, **potentially significant** (**WQ-1**) impacts would be further offset by additional beneficial water quality activities (**MM-WQ-1**) that provide demonstrable pollutant reductions.

5.12.9 MITIGATION MEASURES

The City has developed a suite of water quality measures to provide offsetting water quality benefits in situations where wetlands mitigation has not been constructed at the time maintenance occurs. In addition to the wetland mitigation which would still be provided (**MM-BIO-1a**), **MM-WQ-1** includes three, equally suitable activities: (1) maintenance-activity-specific outreach and enhanced catch basin cleaning, (2) enhanced street sweeping, and/or (3) select "green" infrastructure (GI) (Table 5.12-4). Within the context of the MWMP, GI can potentially include low-impact-development type BMPs, multi-use treatment areas, or stream rehabilitation projects. The following mitigation measure would provide additional water quality benefit.

MM-BIO-1a **Compensatory Wetlands Mitigation**. See Section 5.3, Biological Resources.

MM-WQ-1 **Beneficial Water Quality Activities.** One of three, equally suitable water-quality activities listed within in Table 5.12-4, MWMP Additional Beneficial Water Quality Activities, shall be implemented for facilities where maintenance activities result in jurisdictional, vegetated wetlands loss, and construction of compensatory wetlands mitigation has not been initiated (i.e., significant investment/substantial work) at the time maintenance is completed.

Table 5.12-4
MWMP Additional Beneficial Water Quality Activities

Item[1]	Activity[2]	Implementation Quantity[3]	Implementation Detail
1	Maintenance-specific outreach	250 units[4]	Per maintenance event
	Enhanced in-watershed catch basin inspection and cleaning	25 locations[5]	Quarterly inspection and cleaning for 1 year per maintenance event
2	Enhanced street sweeping	1 mile[6]	Per 5 linear feet of wetland impact
3	GI-MUTA-stream rehabilitation	1 project[7]	Per facility maintained

GI = green infrastructure; MUTA = multi-use treatment area

1 Under the MWMP, the City's Transportation & Storm Water Department (TSW) would implement one of three, equally suitable water-quality activities for each facility group maintained where mitigation is not yet constructed. Items 1 or 2 would be implemented each fiscal year that maintenance occurs. Item 3 would be implemented once, and no additional water-quality-benefit features would be required.

2 Beneficial water-quality-activity implementation is specific to the MWMP program. Activities are not included as part of the City *Water Quality Improvement Plan* or other compliance efforts.

3 Calculation-based methodology applied to derive beneficial water-quality-activity implementation quantities.

4 250 in-watershed parcels.

5 25 in-watershed catch basin locations inspected and cleaned quarterly for one fiscal year.

6 1 mile additional in-watershed vacuum-assisted and/or median street sweeping effort per 5 linear feet of wetland impact within the fiscal year when maintenance occurs.

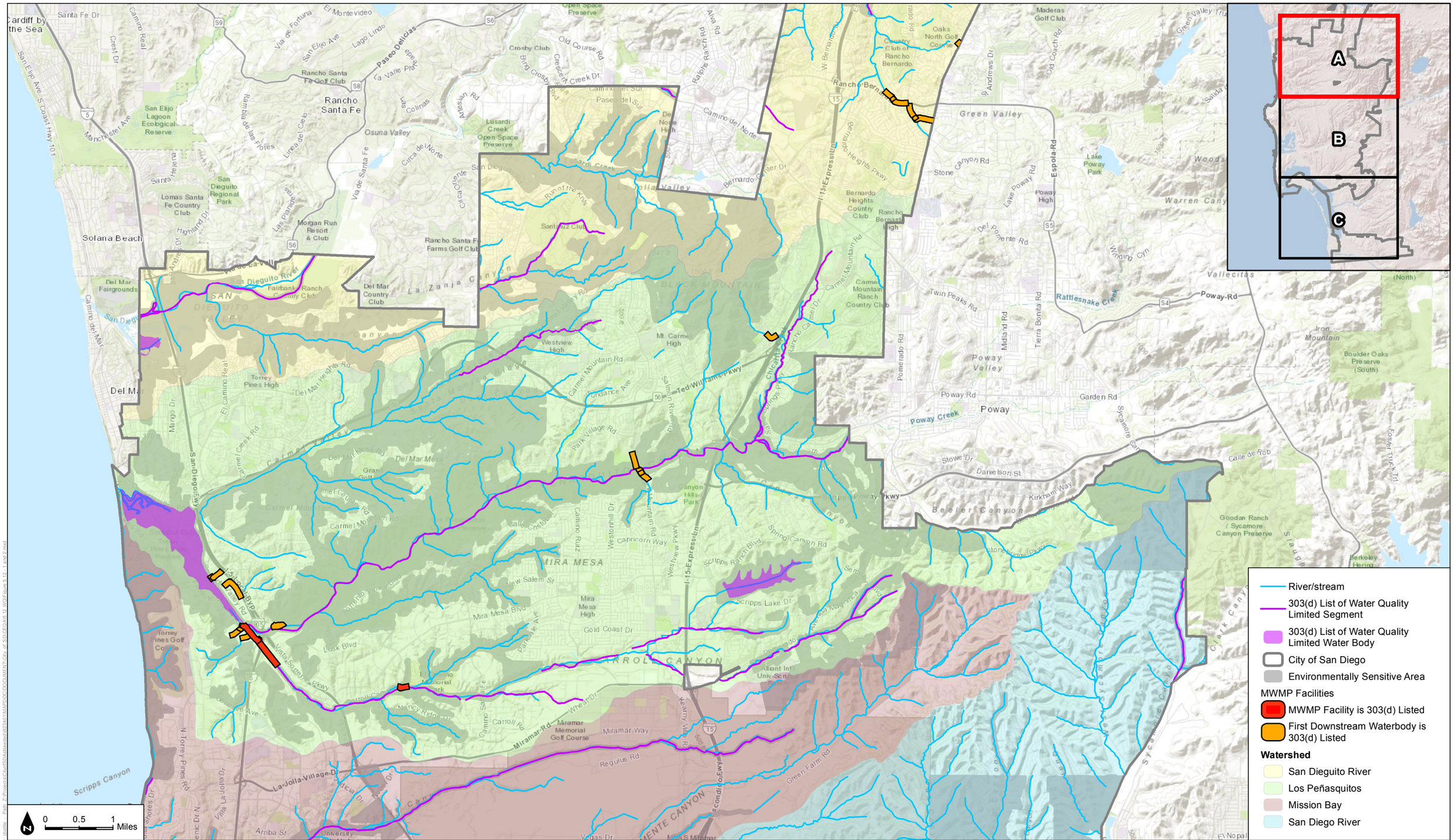
7 One in-watershed GI-MUTA-stream rehabilitation project 500 square feet or greater as implemented by the TSW. GI-MUTA-stream rehabilitation projects greater than 1,000 square feet may be used for multiple facilities and maintenance events.

When applicable, items 1 or 2 shall be implemented each fiscal year that maintenance occurs. Item 3 shall be implemented once, and no additional water quality mitigation would be required. Implementation of Items 1, 2, or 3 is independent of required compensatory habitat mitigation to be performed as part of MM-BIO-1a.

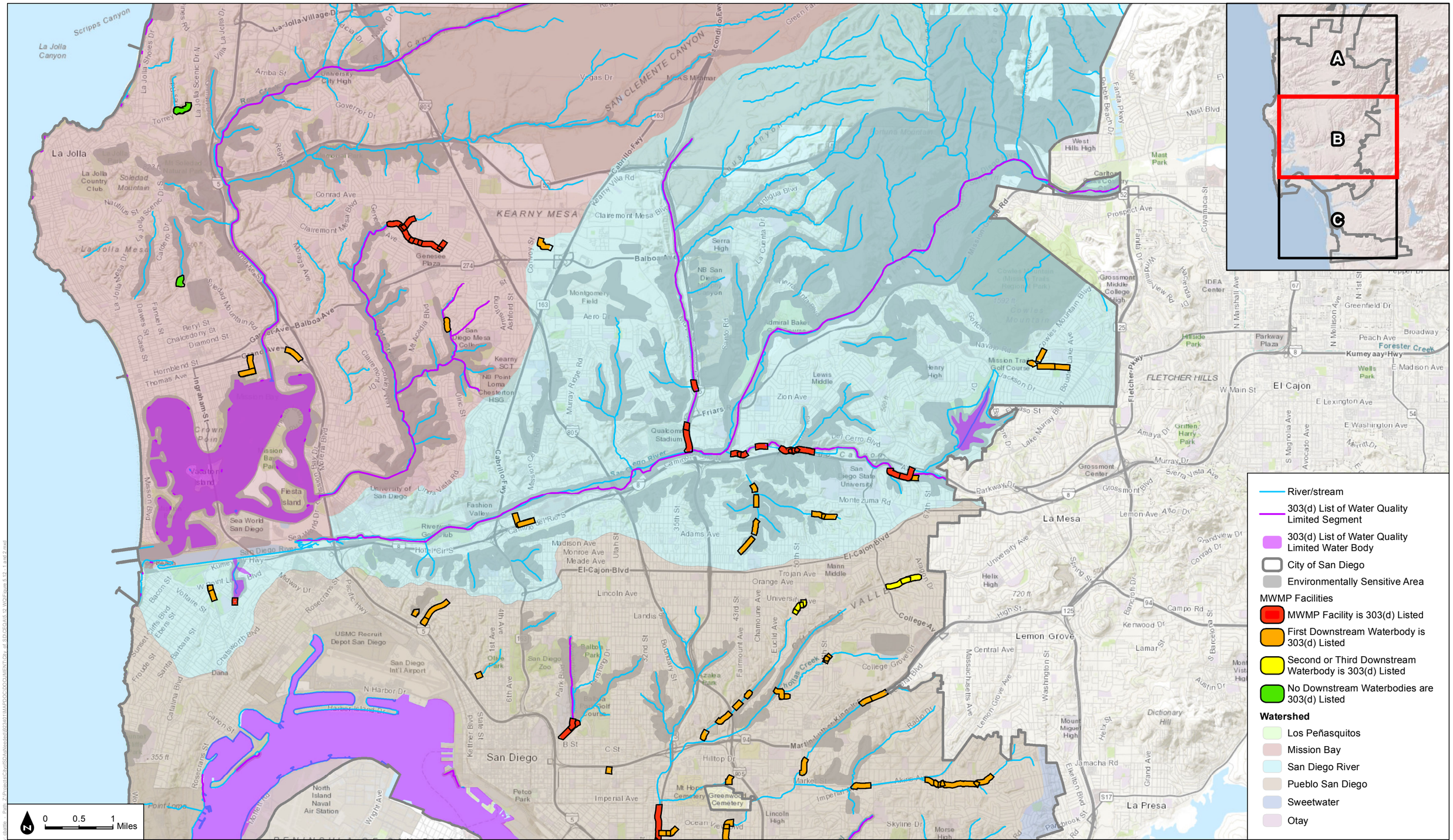
5.12.10 SIGNIFICANCE OF IMPACT AFTER MITIGATION

With implementation of **EP-WQ-1** short term water quality impacts would be **less than significant.** Wetlands avoidance and implementation of **MM-BIO-1a**, would reduce the potential for long-term water quality impacts; however, for MWMP activities where implementation of **MM-BIO-1a** is delayed, implementation of **MM-WQ-1** would further reduce the potential for long-term water quality impacts. However, these offsetting water quality benefit features are based on the best available data, which at

this time cannot precisely calculate water quality conditions prior to and after maintenance and mitigation due to an extensive set of both site-specific and independent conditions and variables that vary in space and time. Therefore, potential long-term water quality impacts would remain **significant and unavoidable** following implementation of **MM-BIO-1a** and **MM-WQ-1.**


A
B
C
River/stream
303(d) List of Water Quality Limited Segment
303(d) List of Water Quality Limited Water Body
City of San Diego
Environmentally Sensitive Area
MWMP Facilities
MWMP Facility is 303(d) Listed
First Downstream Waterbody is 303(d) Listed
Watershed
San Dieguito River
Los Peñasquitos
Mission Bay
San Diego River
0 0.5 1 Miles
Solana Beach
Del Mar
Rancho Santa Fe
Poway
MIRA MESA
CARROLL CANYON
MIRAMAR
Scripps Canyon
Beeler Canyon
Green Valley
Vallecitas
Lake Poway Park
Rancho Santa Fe Golf Club
Crosby Club
Lusardi Creek Open Space Preserve
Morgan Run Resort & Club
Rancho Santa Fe Farms Golf Club
Del Mar Country Club
Del Mar Fairgrounds
Fairbanks Ranch Country Club
Lomas Santa Fe Country Club
San Dieguito Regional Park
San Elijo Lagoon Ecological Reserve
Torrey Pines Golf Course
Torrey Pines High
Westview High
Mt. Carmel High
Mira Mesa High
Poway High
Bernardo Heights Country Club
Rancho Bernardo High
Oaks North Golf Course
Country Club of Rancho Bernardo
Maderas Golf Club
Carmel Mountain Ranch Country Club
Miramar Memorial Golf Course
Goodan Ranch / Sycamore Canyon Preserve
Boulder Oaks Preserve (South)
Iron Mountain
Rattlesnake Creek
Poway Creek
Lusardi Creek
Run of the Kings
Santaluz Club
Scripps Ranch Golf Club
Gold Coast Drive
Scripps Lake Drive
Mira Mesa Blvd
Scripps Ranch Blvd
Spring Canyon Rd
Capricorn Way
Westonhill Dr
Camino Ruiz
New Salem St
Carmel Mountain Rd
Carmel Valley Rd
Del Mar Heights Rd
Ted Williams Pkwy
Salmon River Rd
Park Village Rd
Camino del Sur
Paseo Delicias
Rancho Santa Fe
Osuna Valley
Solana Beach
Del Mar
Poway
Poway Rd
Garden Rd
Stowe Dr
Danielson St
Kirkham Way
Twin Peaks Rd
Del Poniente Rd
Stone Canyon Rd
Lake Poway Rd
Espola Rd
Poway-Rd
Green Farm Rd
Regulus Rd
Miramar Way
Miramar Rd
Carroll Rd
Nancy Ridge Dr
Vista Sorrento Pkwy
Lusk Blvd
Gold Coast Dr
Mira Mesa Blvd
Arriba St
La Jolla Village Dr
Torrey Pines Rd
Villa La Jolla Dr
Mango Dr
El Camino Real
Carmel Creek Rd
Del Mar Mesa Rd
Jade Coast
Chicarita Creek
Rancho Carmel Dr
Pomerado Rd
Midland Rd
Tierra Bonita Rd
Sycamore Canyon
Calle de Rob
Foster Truck Trl
Green Valley Trl
Woods
Warren Canyon
Berkeley Hering
Clark Canyon
Sycamore Canyon Preserve
Rancho Bernardo
Camino del Norte
Camino del Sur
Paseo del Sur
Del Norte High
Ralphs Ranch Rd
Alva Rd
Artesian Rd
Las Colinas
Ranchito Rd
Circa del Norte
Circa Coyote
Via de Santa Fe
Paseo Delicias
Ca Valle Pla
Lago Lindo
Via de Fortuna
El Montevideo
San Elijo Ave
Camino Real
Crest Dr
Santa Fe Dr
Manchester Ave
Highland Dr
Santa Helena
Las Plantas
Ramblia de las Flores
Linea del Cielo
Circa Coyote
Del Mar Heights Rd
Carmel Valley
Del Mar Mesa
Jade Coast
Carmel Mountain

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



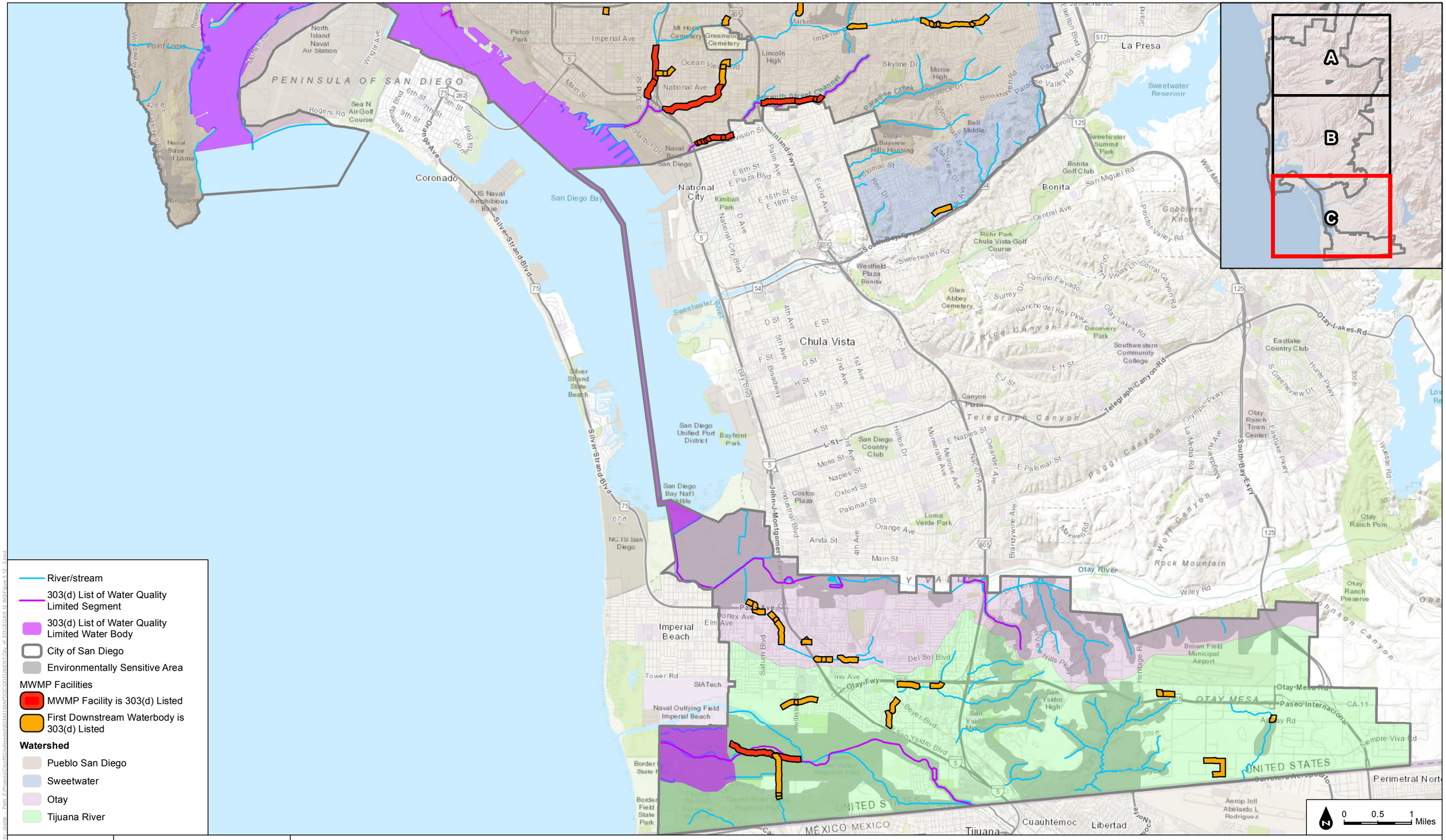
SOURCE: ESRI, 2017; SANDAG, 2017

DUDEK

Municipal Waterways Maintenance Plan EIR

Figure 5.12-1b - Location of 303(d) Listed Water Bodies and MWMP Maintenance Facilities

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING



SOURCE: ESRI, 2017; SANDAG, 2017

DUDEK

Municipal Waterways Maintenance Plan EIR

Figure 5.12-1c - Location of 303(d) Listed Water Bodies and MWMP Maintenance Facilities

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

CHAPTER 6 CUMULATIVE IMPACTS

In many cases, the impact of an individual project may not be significant, but its cumulative impact may be significant when combined with impacts from other related projects. Section 15355 of the California Environmental Quality Act (CEQA) Guidelines defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." CEQA Guidelines Section 15130(b) states that "the discussion [of cumulative impacts] need not provide as great detail as is provided for the effects attributable to the project alone." Section 15130(b) further states that a cumulative impacts discussion "should be guided by standards of practicality and reasonableness."

Cumulative impacts can occur from the interactive effects of a single project. For example, the combination of noise and dust generated during construction activities can be additive and can have a greater impact than either noise or dust alone. However, substantial cumulative impacts more often result from the combined effect of past, present, and future projects located in proximity to a proposed project. Thus, it is important for a cumulative impacts analysis to be viewed over time and in conjunction with other related past, present, and reasonably foreseeable future projects, the impacts of which might compound or interrelate with those of the project under review.

As provided by Section 15130(b)(1) of the CEQA Guidelines, the evaluation of cumulative impacts is to be based on either of the following:

- A list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency; or
- A summary of projections contained in an adopted general plan or related planning document that is designed to evaluate regional or area-wide conditions. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

Pursuant to Section 15130(d) of the CEQA Guidelines, cumulative impact discussions may rely on previously approved land use documents such as general plans, specific plans, plans for the reduction of greenhouse gas (GHG) emissions, and local coastal plans, which may be incorporated by reference. In addition, no further cumulative impact analysis is required when a project is consistent with such plans and the lead agency determines that the regional or area-wide cumulative impacts of the proposed project have already been adequately addressed in a certified Environmental Impact Report (EIR) for that plan. In addition, Section 15130(e) of the CEQA Guidelines states that "if a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for such a project should not further analyze that cumulative impact as provided in Section 15183(j)."

For the analysis of cumulative impacts associated with the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP), the cumulative geographic area primarily includes the City, since the storm water facilities that would be maintained and repaired under the MWMP are located within the City's boundaries, but would also include surrounding areas in unincorporated San Diego County due to their proximity to the City. Due to the nature of the MWMP, which consists of both project- and program-level components, this cumulative impact analysis relies on adopted planning documents, consistent with Section 15130(b)(1)(B) of the CEQA Guidelines, as well as other past, present, and reasonably foreseeable projects, including emergency and routine maintenance projects, City Capital Improvement Program (CIP) projects primarily related to storm water infrastructure (e.g., pipe and outfall replacement, stream restoration, green infrastructure, multi-use treatment areas), and private development with potential for impacts to similar issue areas.

6.1 PLANS, PROGRAMS, AND PROJECTS EVALUATED FOR CUMULATIVE IMPACTS

Consistent with CEQA Guidelines Section 15130(b)(1)(B), this cumulative impact analysis relies primarily on the cumulative impact analysis of the *City of San Diego General Plan Program Environmental Impact Report*, which concluded that implementation of the *City's General Plan* would result in significant and unavoidable cumulative impacts to the following environmental issue areas: agricultural resources, air quality, biological resources, geologic resources, health and safety, historical resources, hydrologic resources, mineral resources, noise, paleontological resources, population and housing, public facilities, public services and utilities, transportation/traffic/circulation/parking, visual effects and community character, water quality, and global warming (City of San Diego 2008). In addition, the *City of San Diego General Plan*, *San Diego County General Plan*, *City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan* (MSCP Subarea Plan), *Final City of San Diego Vernal Pool Habitat Conservation Plan*, *County of San Diego MSCP Subarea Plan*, City of San Diego Land Development Code (LDC), San Diego Association of Governments' (SANDAG) *San Diego Forward: The Regional Plan*, *San Diego International Airport – Airport Land Use Compatibility Plan* (ALUCP), and *Integrated Natural Resources Management Plan 2011–2015*, among others, were used to evaluate cumulative impacts.

In addition to the plans and projects listed above, certain projects have been included in the cumulative impacts analysis for specific resource areas. Table 6-1 provides a list of plans, programs, and projects used for the analysis of cumulative impacts.

6.2 CUMULATIVE IMPACT ANALYSIS

This section presents the analysis of the potential for the MWMP to create cumulatively considerable impacts when the impacts resulting from regional plans and projects listed in Table 6-1 are

considered together with the impacts of the MWMP. As discussed in detail below, the MWMP would have a cumulatively considerable contribution to impacts related to solid waste and water quality. As described in Chapter 7, Effects Not Found to Be Significant, of this EIR, the MWMP would not have significant effects related to light, glare, or shading; agriculture or forestry resources; air movement; energy; geologic conditions; growth inducement; airport hazards; emergency response or evacuation plans; inundation resulting in risk for release of pollutants; physical division of an established community; conflicts with airport land use plans; mineral resources; transportation noise or incompatibility with aircraft noise; public services, facilities, parks, or recreation; wastewater treatment requirements or effects on water, wastewater, or storm water facilities; or transportation, circulation, or parking. Therefore, these issues are not further analyzed in the context of cumulative impacts, since the MWMP's incremental contribution would be negligible.

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
Plans				
City of San Diego General Plan	City of San Diego	The City's General Plan sets out a long-range, comprehensive framework for how the City of San Diego (City) will grow and develop, provide public services, and maintain the qualities that define San Diego over the next 20 to 30 years.	Final EIR certified and plan adopted in March 2008; horizon year 2030	Agricultural resources; air quality; biological resources; geologic conditions; health and safety; historical resources; hydrology; land use; mineral resources; noise; paleontological resources; population and housing; public facilities; public utilities; traffic; visual effects/ neighborhood character; water quality
City of San Diego Land Development Code (LDC)	City of San Diego	The LDC is one of the tools used to implement the General Plan and community plans, which establish the pattern and intensity of land use throughout the City of San Diego. The LDC consolidates all development regulations into a sequence of four chapters of the San Diego Municipal Code.	Final EIR certified and code adopted in 1997	Soils/erosion hazards; air quality; hydrology/water quality; biology; land use [agricultural land and mineral resources]; transportation/circulation; neighborhood character/ aesthetics (landform alteration); historical resources; paleontological resources; human health and public safety (vectors)

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
County of San Diego General Plan	County of San Diego (unincorporated)	The County's General Plan will direct population growth balanced with infrastructure needs, development, and resource protection. The General Plan also includes updates to Community and Subregional Plans.	Final EIR certified and plan adopted in 2011; horizon year 2030	Aesthetics; agricultural resources; air quality; biological resources; hazards and hazardous materials; hydrology and water quality; mineral resources; noise; public services; transportation and traffic; utilities and service systems
City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan	City of San Diego	The City's MSCP Subarea Plan was prepared pursuant to the general outline developed by the United States Fish and Wildlife Service and the California Department of Fish and Wildlife to meet the requirements of the California Natural Communities Conservation Planning Act of 1992. This MSCP Subarea Plan forms the basis for the implementing agreement that is the contract between the City and the wildlife agencies that ensures implementation of the MSCP Subarea Plan and thereby allows the City to issue "take" permits at the local level.	Final EIR/ Environmental Impact Statement (EIS) certified and plan adopted in March 1997	Land use; biology
Vernal Pool Habitat Conservation Plan	City of San Diego	The *City of San Diego Vernal Pool Habitat Conservation Plan* is intended to provide a framework to protect, enhance, and restore vernal pool resources in specific areas within	Final EIR certified and plan adopted in January 2018	Biology

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
		the City's jurisdiction while improving and streamlining the environmental permitting process for impacts to threatened and endangered species associated with vernal pools.		
County of San Diego Regional General Permit 53	County of San Diego	The project is to allow the County of San Diego Department of Public Works to conduct maintenance activities at culverts, earthen-bottom drainage channels, and earthen-bottom flood control channels at various locations in the unincorporated area. The work involves removal of vegetation, debris, and sediment to prevent flooding and erosion of adjacent roadways or properties.	May 1998	Biology
County of San Diego MSCP Subarea Plan	County of San Diego	The *County of San Diego MSCP Subarea Plan* is a long-term habitat conservation plan that addresses the needs of multiple species and the preservation of natural vegetation communities in San Diego County. The MSCP addresses the potential impacts of urban growth, natural habitat loss, and species endangerment, and creates a plan to mitigate for the potential loss of "Covered Species" and their habitats due to the direct impacts of future development of public and private lands within the MSCP area.	Final EIR/EIS certified and plan adopted in October 1997	Land use; biology

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
County of San Diego Vector Control Program	County of San Diego	This program implements integrated vector management activities to protect public health from the impacts of vector-borne diseases. These activities reduce the potential for the spread of diseases and the impact that vectors have on property, and include ongoing educational outreach, vector surveillance activities, source reduction (i.e., physical control), and source treatment (i.e., biological and chemical control).	Final Program EIR certified March 2010	Biology; cultural resources; hydrology; water quality; and noise.
San Diego Association of Governments (SANDAG) Regional Comprehensive Plan (RCP)	SANDAG	The *SANDAG RCP* is a long-term planning framework for the San Diego region. The plan balances population, housing, and employment growth with habitat preservation, agriculture, open space, and infrastructure needs within the San Diego region. The plan provides a long-term context for guiding future growth in the San Diego region.	Final EIR certified and plan adopted in July 2004	Land use; population/housing/ employment; transportation/circulation; energy; geology; paleontology; biological resources; cultural resources
SANDAG San Diego Forward: The Regional Plan	SANDAG	The *SANDAG San Diego Forward Regional Plan* is an update to the RCP for the San Diego region and the 2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), combined into one document. The 2050 RTP/SCS is the blueprint for a regional transportation system, serving existing and	Final EIR and plan adopted in October 2015; horizon year 2050	Aesthetics; agricultural and forestry resources; air quality; biology; cultural and paleontological resources; energy; geology, soils, and mineral resources; GHG emissions; hazards and

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
		projected residents and workers within the San Diego region over the next 40 years to further enhance quality of life and offer more mobility options for people and goods. The SCS serves to align regional transportation, housing, and land use plans to reduce the amount of vehicle miles traveled to attain the regional greenhouse gas (GHG) reduction targets established by the California Air Resource Board.		hazardous materials; land use; noise and vibration; population and housing; public services and utilities; transportation; water supply
San Diego International Airport – Airport Land Use Compatibility Plan (ALUCP)	San Diego County Regional Airport Authority	This ALUCP provides airport land use compatibility policies and standards related to four airport-related factors: noise, safety, airspace protection, and overflight.	Final EIR certified and plan adopted in April 2014	Land use and planning; population and housing
Integrated Natural Resources Management Plan (INRMP) 2011–2015	Marine Corps Air Station (MCAS) Miramar	The INRMP for MCAS Miramar guides implementation of the natural resources program from 2011 through 2015. The INRMP integrates the land use needs of the air station in support of its military mission with the management and conservation of natural resources. The INRMP establishes MCAS Miramar's approach and guidelines relative to natural resources to accomplish this end.	Finding of No Significant Impact adopted August 2011	None

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
Mission Trails Regional Park/Natural Resources Management Plan	City of San Diego	A Programmatic Environmental Impact Report (PEIR) has also been prepared as a part of this effort to ensure compliance with the California Environmental Quality Act (CEQA) for all proposed facilities and management activities planned as part of both the MPU and NRMP. The City of San Diego Planning Department, Park Planning Section, initiated a formal Master Plan Update (MPU) process for Mission Trail Regional Park (MTRP) in the winter of 2010. As part of the MPU process, a *Natural Resource Management Plan* (NRMP) has also been prepared. The NRMP, a requirement of the MSCP, has been developed concurrently with the MPU to ensure that protection and management concerns for both environmental and cultural resources have been fully assessed and integrated into the MPU.	Approved May 2019	Land use; biology; historical resources; hazards; hydrology; water quality; traffic; and utilities.
Morena Corridor Specific Plan	City of San Diego	The *Morena Corridor Specific Plan* identifies land uses, urban design policies, and transportation and infrastructure improvements for the area along Morena Boulevard, around the future Tecolote and Clairemont Drive trolley stations, and the commercial and industrial lands within the	Final EIR released February 2019	Transportation and circulation; noise; air quality; historic and tribal cultural resources; paleontological resources; visual effects and neighborhood character

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
		southwest area of Linda Vista. The Morena Corridor Specific Plan would allow for increased residential density in Linda Vista and transit-oriented development adjacent to the future trolley stations.		
San Diego International Airport Development Plan	San Diego County Regional Airport Authority	The *Airport Development Plan* provides a development framework to implement improvements that will enable the airport to accommodate future demand for air travel anticipated to occur at San Diego International Airport.	Draft EIR released July 2018	Air quality; GHG emissions; cultural resources; land use and planning; noise; traffic and circulation; cumulative impacts (air quality)
UC San Diego 2018 Long Range Development Plan (LRDP), La Jolla Campus	UC San Diego	The *LRDP* is a general land use plan that guides the physical development of the campus. The LRDP outlines the possibilities for growth in a way that acknowledges the campus's historic foundations, natural beauty, and unique character while ensuring that UC San Diego can continue to advance its mission.	Final EIR certified and plan approved in November 2018	Air quality; cultural and tribal cultural resources; population and housing; transportation/traffic; cumulative impacts (air quality; cultural resources and tribal cultural resources; population and housing; transportation/ traffic)
De Anza Cove Amendment to the Mission Bay Park Master Plan (MBPMP) EIR	City of San Diego	The De Anza Cove Amendment to the MBPMP recommends that the revitalization of De Anza Cove should serve regional recreation needs, including guest housing (recreational vehicles and other low cost camping facilities); contribute to the park's water quality,	NOP released June 2018	Aesthetics; air quality; biological resources; drainage and hydrology; geologic/seismic; noise; housing; public services; recreation; solid waste;

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
		including creating additional wetlands; facilitate hydrologic improvements to safeguard the viability of marsh areas; provide a waterfront trail, viewing areas, and other passive recreational features to enhance public use of the area; and ensure leaseholds support the Mission Bay recreation use. The proposed project seeks to implement the recommendations of the MBPMP.		hazards; traffic; water quality; growth inducing; and land use.
Balboa Avenue Station Area Specific Plan	City of San Diego	The proposed *Balboa Avenue Station Area Specific Plan* would increase residential density by re-designating and rezoning lands to allow for transited-oriented development adjacent to the Balboa Avenue trolley station.	Final EIR November 2018	Air quality; historical and tribal cultural resources; noise; paleontological resources; cumulative impacts (transportation/ circulation)
University of San Diego Master Plan Update	City of San Diego	Comprehensive revision of the 1996 *University of San Diego Master Plan* and Design Guidelines, as well as the campus's building space and infrastructure needs associated with increasing enrollment from 7,000 to 10,000 full-time-equivalent students over the next 20 years.	Final Subsequent EIR released May 2017	Transportation/circulation; cumulative impacts (transportation/circulation; air quality)
Pure Water San Diego Program	City of San Diego	Pure Water San Diego is the City's phased, multi-year program that will provide one-third of San Diego's water supply locally by 2035. The Pure Water San Diego Program will use	Final Program EIR certified in October 2016.	Land use; air quality; health and safety; biological resources; noise; historical resources; hydrology and

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
		proven water purification technology to clean recycled water to produce safe, high-quality drinking water. The program offers a cost-effective investment for San Diego's water needs, and will provide a reliable, sustainable water supply (City of San Diego 2019).		water quality; paleontological resources; public utilities; visual effects and neighborhood character; geology and soils; transportation, circulation, and parking
Campus Point Master Plan	City of San Diego	Intensification of an existing 731,725-square-foot scientific research and development facility by 328,383 square feet, thereby creating a 1,060,108-square-foot science and business park, characterized by a campus-like environment, with comprehensive site design and substantial landscaping.	Final Supplemental EIR released April 2017	Traffic circulation
Projects				
City of San Diego Capital Improvement Program (CIP)	City of San Diego Public Works Department	Design, permitting, and construction of various infrastructure improvement projects, including airports, bikeways, bridges, storm water facilities, libraries, parks, public safety facilities, street/sidewalk improvements, utility undergrounding, water, and sewer. Subject to ongoing updates; currently includes approximately 156 storm water CIP projects, including "green" infrastructure, low-impact development, storm drain replacements, and stream restoration/mitigation. Storm water	Ongoing	Biological resources; cultural resources; water quality

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
		CIPs are identified through various programs, including Water Quality Improvement Plans, Comprehensive Load Reduction Plans, Watershed Asset Management Plans, and Watershed Master Plans. A current list of CIPs can be accessed at https://www.sandiego.gov/cip/projectinfo.		
North City Project, Pure Water San Diego Program	City of San Diego	The North City Pure Water Project is the first phase of the City's Pure Water Program. The project is designed to augment Miramar Reservoir, which is a source of domestic drinking water supply, with 30 million gallons per day of purified water produced at the future North City Pure Water Facility.	Final EIR/EIS certified in April 2018; operation anticipated in 2021	Noise; transportation, circulation, and parking
The Preserve at Torrey Highlands	City of San Diego	Construction of three office buildings composed of an 180,000-square-foot, six-story building; a 120,000-square-foot, four-story building that would include a 5,000-square-foot fitness center; a 150,000-square-foot, five-story building; an amenity building that would include a 3,850-square-foot cafe; and a 180,000-square-foot seven-story parking garage with one level below grade and surface parking. Each office building would include subterranean parking spaces.	Approved March 2019	Transportation/circulation; visual effects and neighborhood character; GHG emissions

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
Morena Apartment Homes Project	City of San Diego	Construction of 150 market-rate multi-family units with an approximately 4,400-square-foot clubhouse facility, recreational facility, landscaped areas, a pool and pool house building, and a water quality detention basin.	Final EIR certified January 2019	None
Costa Verde Revitalization Project	City of San Diego	Reconfiguration and expansion of the existing Costa Verde Center to create a local, walkable hub that provides community gathering spaces, additional retail shops, restaurants, office space, neighborhood services, and a 200-room hotel.	Draft EIR circulated for public review in 2018	Air quality; drainage, geologic; noise; public services; traffic; water quality; land use; GHG; hydrology; paleontological resources; and cumulative.
Mid-Coast Corridor Transit Project	SANDAG	Extension of the Trolley Blue Line service and associated improvements that would improve transit service between downtown San Diego, Old Town, and University City.	Final Supplemental EIS/EIR released September 2014; Record of Decision issued October 2014; construction commenced fall 2016; operation expected to begin in 2021	Transportation; air quality; noise and vibration; paleontological resources; cumulative impacts (transportation; air quality)

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
North Torrey Pines Living and Learning Neighborhood Project	UC San Diego	Mixed-use development containing undergraduate housing, academic and administrative space, community and open space, and underground parking in the west campus of UC San Diego. Three of the buildings would be primarily residential and three would contain a mix of educational, community, and residential uses.	Final EIR certified March 2018; full occupancy anticipated by end of 2020	Transportation and traffic; cumulative impacts (transportation and traffic)
University Towne Center Revitalization Project (Westfield Redevelopment Project)	City of San Diego	Renovation and expansion of retail uses by 750,000 square feet of new retail and the development of 250 multi-family residential units. Alternatively, the applicant has the option to implement a mix of land-use scenarios that could include a reduction in new retail and the addition of up to 725 residential dwelling units, up to 250 hotel rooms, and/or up to 35,000 square feet of office space. Additional project features would include a relocated and expanded bus transit center; reservation of right-of-way for the proposed transit center and planned extension of a light rail transit line; and certification under the Leadership in Energy and Environmental Design (LEED) Green Building Rating System.	Final EIR certified July 2008; construction complete	Aesthetics/visual quality; transportation/circulation; air quality; cumulative impacts (transportation/ circulation; air quality; public utilities [landfill capacity])

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
Mesa Housing Nuevo West and East Project	UC San Diego	Two campus student housing developments (Nuevo West and Nuevo East) and a parking structure, located on separate but proximate sites within the east campus Mesa Housing Neighborhood. Nuevo West would redevelop an approximately 6.2-acre site, replacing existing low-density housing with 802 new student beds and 82 new beds for the UC San Diego Family House. The parking structure would be developed on an adjacent 3.2-acre site. Nuevo East would redevelop an approximately 13.2-acre site, replacing existing low-density student housing with 1,374 new beds. Utility and roadway improvements associated with the project are also proposed along and in the vicinity of Miramar Street and Athena Circle and would include constructing an internal campus connection between Miramar Street and Athena Circle.	Final Tiered EIR released October 2017; construction completion anticipated by spring 2020	None
Carroll Canyon Mixed-Use Project	City of San Diego	Redevelopment of the existing office complex with a mixed-use development that would include multi-family residential units, small retail shops, and restaurants. The existing 76,241 square feet of office buildings and associated facilities would be demolished and	Final EIR certified June 2017	Cumulative impacts (transportation/traffic circulation)

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
		replaced with up to 260 multi-family residential units and approximately 10,700 square feet of commercial retail space.		
Candlelight Development Project	City of San Diego	Application for a Planned Development Permit, Site Development Permit, and Tentative Map to subdivide a 44.19-acre parcel in the Otay Mesa area of San Diego into three multi-family residential lots totaling 26.33 acres and two open space lots. As part of the project, the applicant would grant conservation easements over both open space lots in fee title to an agency approved by the California Department of Fish and Wildlife. The project also includes a trail easement and trail, and trail access improvements.	Final EIR certified July 2018	Cumulative impacts (transportation/circulation)
Merge 56 Development Project	City of San Diego	The project is composed of two major components. The first component is a 41.34-acre mixed-use development (including internal private road improvements) that consists of a mixed-use center containing commercial, office, hotel, and residential uses on a triangular-shaped property, including 525,000 square feet of commercial, office, theater/cinema, and hotel uses and 242 residences (i.e., 158 multi-family and 84 single-	Final EIR certified February 2018	Visual effects/neighborhood character; cumulative impacts (transportation/circulation)

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
		family). The second part of the project is composed of 31 acres of public road improvements to complete undeveloped segments of Camino del Sur and Carmel Mountain Road, which are Circulation Element roads.		
Alexan Fashion Valley Project	City of San Diego	Site development permit and planned development permit to demolish existing structures (35,699 square feet) and on-site surface parking and construction of a mixed-used development composed of 284 dwelling units, 5,760 square feet of commercial (office use) and 3,170 square feet of commercial (restaurant use) within the *Mission Valley Community Plan* area. The project would range in height from four stories to five stories and would have a total of 284 residential units and 8,897 square feet of commercial space (office and restaurant). A total of 408 parking spaces would be provided in a six-story, above-ground parking structure, in addition to 67 surface parking spaces, for a total of 475 parking spaces.	Final EIR certified September 2017	None
Town & Country Project	City of San Diego	Construction of a mixed-use transit-oriented development through the consolidation, renovation, and infill development of the	Final EIR certified June 2017	Transportation/circulation; historical resources

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
		existing Town and Country Hotel through a master plan that would establish three districts: park district, residential district, and hotel district. The master plan elements include a renovation of portions of the hotel and convention buildings while demolishing other structures to accommodate construction of new hotel facilities and residential uses.		
Discovery Center Final MND	City of San Diego	The interpretive center would be comprised of a two-story, 9,950-gross square-foot facility. The facility would consist of an 8,750-square-foot two-story, 35-foot-high meeting/interpretive center with a 1, 140-square-foot partially covered view deck and a one-story, 1,200-square-foot concession building with storage and restrooms. Outdoor 4?es would include a passive park, an outdoor classroom space, volunteer staging area, picnic areas, multi-purpose deck with an outdoor fireplace, an interpretive water feature, and an extension of the San Diego River Pathway through the site.	August 2018	Biology; land use; noise; cultural resources; and tribal cultural resources
Riverwalk Project	City of San Diego	Proposed redevelopment would consist of the construction of approx. 4,300 multi-family residential dwelling units; approx. 140,000 sf	NOP Released April 2019	Aesthetics; air quality; archeology; historic; biology; hydrology; geologic; noise;

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
		of neighborhood retail space; approx. 1,000,000 sf of office; approx. 22 acres of population based parks; approx. 60 acres of park, open space, and trails; and a new Green Line Trolley stop within the development. The approx. 195-acre 27-hole Riverwalk Golf Course is located at 1150 Fashion Valley Rd.		public services; solid waste; traffic; water quality; land use; cumulative.
Legacy International Center Project	City of San Diego	Redevelopment of the existing Mission Valley Resort Hotel property with a mixed-use development to include commercial, administrative, retail, and religious uses with a 63,447-square-foot pavilion (with restaurant, gift shops, learning center, theater, and wellness center), a 41,071-square-foot Legacy Vision Center building (with a welcome center, catacombs, a dome theater, a museum, a gallery, and retail), a 7,783-square-foot souk (market), and a five-story 88,120-square-foot Legacy Village building (with 127 guest suites, a restaurant, and a wellness center). In addition, outdoor ancillary uses would include a city plaza, central plaza, wailing wall, water feature, prayer garden, and pedestrian trail.	Final EIR certified October 2017; construction completion anticipated by end of 2019	None
Hillel Center for Jewish Life (HCJL) Project	City of San Diego	Development of a permanent Hillel Center for Jewish Life facility in two phases. Phase 1 would consist of the temporary use of an	Final EIR certified July 2017	None

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
		existing property as a space to provide for religious programs and construction of temporary parking. Phase 2 would consist of the construction of three individual buildings surrounded by an interior courtyard and a surface parking lot. Upon occupancy of Phase 2, the temporary use of the existing property would expire and revert back to a single dwelling unit use.		
Heritage Bluffs II Project	City of San Diego	Subdivision of the project site into 171 single-family lots, three open space lots, and 14 lots maintained by the Homeowner's Association, including two pocket parks.	Final EIR November 2016	Biological resources; landform alteration/visual quality; traffic; air quality; cumulative impacts (natural resources/ agriculture)
Avion Property	City of San Diego	Subsequent EIR to Black Mountain Ranch Subarea 1 Plan PEIR. The project would subdivide the site and construct 117 dwelling units. The project would also construct various site improvements, which include associated public and private streets, hardscape, retaining walls and landscaping. The project site consists of a 41.48-acre parcel of undeveloped land located approximately 0.6 mile south of Carmel Valley Road/Bernardo Center Drive, 1.2 miles west of Interstate 15, and 1.4 miles east of Black Mountain Road.	NOP issued July 2019	Air quality; archeology; historic; biology; noise; and aesthetics

Table 6-1
Plans, Programs, and Projects Used for the Cumulative Analysis

Project Name	Jurisdiction	Description	Status/ Timing	Potential Significant and Unavoidable Impacts
		The site is designated Low Density Residential and zoned AR-1-1 (Agricultural)) within the Black Mountain Ranch Subarea Plan.		
San Diego State University Mission Valley Campus Master Plan Project	San Diego State University	The project includes a) development of a Mission Valley campus for SDSU; (b) demolition of the existing San Diego County Credit Union Stadium; (c) construction of a new, multipurpose stadium; (d) creation of the River Park; (e) passive and active recreation space and parks; and (f) associated infrastructure and amenities.	Draft EIR released for public review through October 3, 2019	Air quality; biological resources; cultural resources; geology and soils, hazards and hazardous materials; wildfires; noise; public services; traffic; tribal cultural resources; utilities and service systems

6.2.1 AESTHETICS/VISUAL EFFECTS AND NEIGHBORHOOD CHARACTER

The area considered for cumulative impacts to aesthetics consists of the City and its immediate vicinity, including shoreline areas in the western edge of the City. Cumulative development in the San Diego region would result in additional infill development and transportation infrastructure that could block scenic public views within the City and surrounding area; alter the overall visual character of the area; introduce contrasting bulk, scale, materials, or style; or result in substantial landform alteration. Compliance with the City's design guidelines during the design review process would ensure that cumulative projects would be consistent with the visual character and quality of adjacent properties and the broader area. Nevertheless, significant cumulative visual impacts could result from buildout of regional plans, programs, and projects, as described further below.

As provided in Table 6-1, significant and unavoidable visual impacts have been identified for the following plans, programs, and projects in the San Diego region: the *City of San Diego General Plan*, City LDC, *San Diego County General Plan*, *San Diego Forward, Morena Corridor Specific Plan*, Pure Water San Diego Program, Preserve at Torrey Highlands, University Towne Center Revitalization, Merge 56, Riverwalk Project, Avion Property, De Anza Cove Amendment to the MBPMP, and Heritage Bluffs II. Due to their relatively large scales, buildout of plans in the region that would result in cumulative effects related to obstruction of views include the *City of San Diego General Plan, San Diego County General Plan, San Diego Forward, Morena Corridor Specific Plan,* and Pure Water San Diego Program. Negative alterations to visual character and introduction of bulk, scale, materials, or style incompatible with surrounding development would occur from implementation of the *City of San Diego General Plan, San Diego County General Plan, San Diego Forward,* Morena Corridor Specific Plan, Pure Water San Diego Program, and University Towne Center Revitalization. Changes in the existing landform, including potential grading of steep hillsides, would occur from the *City of San Diego General Plan*, City LDC, Pure Water San Diego Program, Merge 56, Heritage Bluffs II, and the Preserve at Torrey Highlands. The combined impacts of these plans, programs, and projects would result in cumulative visual impacts in the San Diego region related to obstruction of views, incompatible or adverse changes in visual character, and landform alteration (Issues 1, 2, 3, and 5). Cumulative impacts related to the loss of distinctive trees (Issue 4) would not occur.

The MWMP would have a cumulatively considerable contribution to cumulative aesthetic impacts if it would, in combination with cumulative plans, programs, and projects, obstruct scenic views, contrast with or detract from features that contribute to visual character, or substantially alter existing topography. As described in Section 5.1, Aesthetics/Visual Effects and Neighborhood Character, of this EIR, project-level MWMP activities would have less-than-significant impacts related to aesthetics and visual resources. MWMP facilities consist of existing channels, ditches, basins, outlets, and inlets that contribute to the existing character of the local area. These facilities are either within urban, developed areas where they are part of the existing character of the

neighborhood, or are within natural and community open space systems where they are part of the landscape character and often follow drainage contours that are lower than surrounding landforms. Often, facilities are marginally visible to residents or users of the area due to location and proximity to public vantage points, including roads, trails, and parks. The City has continually operated a maintenance program that results in changing visual characteristics within these facilities.

Implementation of the MWMP would not involve construction of new buildings or other vertical structures that would result in blocking of views, including views to the Pacific Ocean, Mission and San Diego Bays, Chollas Creek, the San Diego River, parks, canyons, or mountains. Furthermore, the temporary presence of construction equipment and vehicles in views would not constitute a large or particularly substantial view obstruction. The temporary presence of construction equipment and vehicles in public views, and the temporary storage of equipment within a City right-of-way, is a construction practice that routinely occurs throughout the City. As such, the temporary presence of construction features is a visual occurrence expected to be familiar to pedestrians, cyclists, and motorists. Therefore, activities proposed under the MWMP would not have a cumulatively considerable contribution to cumulative effects related to obstruction of views (Issue 1).

However, program-level activities (primarily consisting of construction of new compensatory mitigation sites) may result in substantial view blockage or interruption at community plan identified view, scenic vista or public vantage points. Therefore, program-level activities (primarily consisting of construction of new compensatory mitigation sites) conducted under the MWMP that would entail the introduction of new vegetation would be potentially significant absent mitigation (AES-1). Although potential impacts could result from programmatic projects, impacts would be relatively minor and not cumulatively considerable.

MWMP facilities are distributed throughout the City and primarily within urban, developed areas where they are part of the existing character of the neighborhood. Alternatively, a comparatively smaller number of MWMP facilities may occur on lands that may be used for passive recreational uses or within natural and community open space systems where they are part of the landscape character and often follow drainage contours that are lower than surrounding landforms. The presence of equipment and construction vehicles would alter the character of MWMP facilities as they are typically experienced by residents or public users as managed conveyances with varying degree of natural and constructed features. The temporary presence of equipment and vehicles near or within MWMP facilities, including those within canyons, designated open space or parkland, would not constitute long-term contrast or permanent alteration of the existing character of the MWMP facility or the larger surrounding area. MWMP facilities are existing features in their respective urban and natural landscapes that, along with nearby land uses and development, contribute to the existing character of the communities where they are located. Repair activities may result in the addition of concrete and/or riprap in channels or structures; however, these activities would be localized in existing developed facilities and would not

substantially alter the existing visual character of the wider area. Also, the visual effects of removing vegetation from channels/ditches, basins, and in front of structures would be temporary since the form and spread of individual shrubs and trees would likely naturally re-establish over time. Lastly, removal of vegetation within facilities located in a view-sensitive area, such as community plan–designated parks and open space, would not create a substantial visual loss since the undeveloped nature of these lands would remain and their function as visual relief from urbanization would not be significantly altered.

The activities proposed by the MWMP do not entail large-scale visual change capable of substantially altering aesthetic character or resulting in strong contrast, such as the construction of incompatible development or new development in previously undeveloped and natural areas. Lastly, no new uses or structures are proposed, and as such, MWMP activities would not result in bulk, scale, materials, or style that would be incompatible with surrounding development. Therefore, the MWMP would not have a cumulatively considerable contribution related to incompatible or adverse changes in visual character (Issues 2 and 3).

Project-level maintenance activities included in the MWMP would be implemented within existing facilities. Implementation of the MWMP would not result in construction of new channels or buildings that would substantially alter landforms. Proposed maintenance and repair activities under the MWMP would result in minor alterations of sediment and debris that had built up within that existing facility over time, and no new areas would be graded and/or modified. These minor alterations would typically occur through minor ground disturbance, removal of excess or built-up sediment, limited excavation to remove built-up materials, and regrading of earthen-bottom facility banks within existing facilities. Generally, the alteration of landforms or topography associated with MWMP activities would occur within low-lying areas and would be overlooked by casual observers and would not represent a substantial visual change when viewed from public viewing locations. Landform alterations associated with the MWMP would return existing facilities to their as-built or original design and would occur in areas that have been previously disturbed when the channel/ditch, basin, or structure was created and/or from past maintenance events. As such, the MWMP would not have a cumulatively considerable contribution to aesthetic impacts related to substantial changes in topography or landform alteration (Issue 5).

As described above, the MWMP's incremental contribution to impacts on aesthetic resources in the San Diego region **would not be cumulatively considerable**.

6.2.2 AIR QUALITY AND ODOR

The cumulative setting for air quality is the San Diego Air Basin, which is managed by the San Diego Air Pollution Control District. The San Diego Air Basin is designated as a federal nonattainment area for ozone, and a state nonattainment area for ozone, coarse particulate matter (PM_{10}), and fine

particulate matter ($PM_{2.5}$). Future development in the San Diego region would generate increased air pollutant emissions associated with construction activities, transportation, and stationary sources. As shown in Table 6-1, significant and/or significant and unavoidable impacts to air quality would occur with the following plans, programs, and projects: *City of San Diego General Plan*, City LDC, *San Diego County General Plan, San Diego Forward, Morena Corridor Specific Plan, San Diego International Airport Development Plan, UC San Diego Long Range Development Plan, Balboa Avenue Station Area Plan, University of San Diego Master Plan Update*, Pure Water San Diego Program, Mid-Coast Corridor Transit Project, University Towne Center Revitalization, Costa Verde Revitalization, Riverwalk Project, Avion Property, De Anza Cove Amendment to the MBPMP, and Heritage Bluffs II.

For the San Diego Air Basin, the Regional Air Quality Strategy (RAQS) serves as the long-term regional air quality management plan for the purpose of assessing cumulative operational emissions to ensure the San Diego Air Basin continues to make progress toward attainment of National Ambient Air Quality Standards and California Ambient Air Quality Standards. Cumulative projects located in the San Diego region would have the potential to result in a cumulative impact to air quality plans if, in combination, they would conflict with or obstruct implementation of the RAQS and/or applicable portions of the State Implementation Program (SIP). Projects that are inconsistent with the regional planning documents that the RAQS and SIP are based on would have the potential to result in cumulative impacts if they would include development beyond regional projections. The Morena Corridor Specific Plan, Balboa Avenue Station Area Specific Plan, and Heritage Bluffs II were found to be inconsistent with the RAQS (Issue 1).

Cumulative projects located in the San Diego region would have the potential to result in a significant cumulative air quality violation if, in combination, they would violate any air quality standard or contribute to an existing or projected air quality violation. Construction and/or operation associated with the *City of San Diego General Plan, County of San Diego General Plan, San Diego Forward,* City LDC, *Morena Corridor Specific Plan, San Diego International Airport Development Plan, UC San Diego Long-Range Development Plan, Balboa Avenue Station Area Specific Plan,* Pure Water San Diego Program, *Mid-Coast Corridor Transit Plan,* and University Towne Center Revitalization would result in emissions of criteria pollutants that would contribute to existing or projected air quality violations in the San Diego region. In most cases, incremental emissions resulting from implementation of these plans, programs, and projects would contribute to cumulatively considerable net increases in criteria pollutants in the San Diego region (Issue 4).

The *County of San Diego General Plan, San Diego Forward, UC San Diego Long-Range Development Plan,* Pure Water San Diego Program, and *University of San Diego Master Plan* also identified significant impacts related to exposure of sensitive receptors to substantial pollutant concentrations; however, these are unlikely to combine to cause cumulative health risks unless projects were sited close to

one another (Issue 2). No cumulative effects related to odors were identified; therefore, the MWMP would not contribute to cumulative odor-related impacts (Issue 3).

A cumulative impact would occur if the MWMP would contribute substantially to an existing or projected air quality violation, or if the MWMP would be inconsistent with the relevant air quality management plan. If a project involves development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project might be in conflict with the SIP and RAQS, and may contribute to a potentially significant cumulative impact on air quality. As described in Section 5.2, Air Quality and Odor, of this EIR, implementation of the MWMP would be consistent with existing zoning and General Plan land use designations, would not generate new employment, and would not include a residential component or procurement of additional water supplies that could result in growth-inducing effects. Therefore, the MWMP would be consistent with the regional growth forecasts in the SIP and the RAQS, and would have a less-than-significant impact related to consistency with the SIP and RAQS. Therefore, the MWMP would not have a cumulatively considerable contribution related to conflicts with these plans (Issue 1).

As described in Section 5.2, Air Quality and Odor, implementation of the MWMP would result in exceedance of the San Diego Air Pollution Control District's daily screening-level threshold for nitrogen oxides (NO_x)—an ozone precursor. Implementation of Mitigation Measure (**MM-**) **AQ-1**, requiring Tier 4 interim construction equipment, would reduce NO_x emissions to less than significant. Following implementation of **MM-AQ-1**, NO_x emissions would be reduced to a level below the San Diego Air Pollution Control District's threshold, which serves as both a screening-level threshold for direct impacts and a threshold indicating a cumulatively considerable contribution to air quality impacts. Therefore, with implementation of **MM-AQ-1**, the MWMP's incremental contribution to criteria pollutant emissions for which the San Diego Air Basin is in nonattainment with federal and/or state standards would not be cumulatively considerable (Issue 4).

Regarding Issue 3, any odors associated with project-level MWMP maintenance activities would be temporary and would cease upon completion; therefore, odor impacts would be less than significant, and not cumulatively considerable.

As discussed in Section 5.2, Air Quality and Odor, the MWMP could expose sensitive receptors to criteria pollutant concentrations with associated health impacts, which would be reduced to less than significant with implementation of **MM-AQ-1**. Therefore, the MWMP would not have a cumulatively considerable contribution to health risks (Issue 2).

As described above, the MWMP's incremental contribution to air quality impacts in the San Diego region **would not be cumulatively considerable**.

6.2.3 BIOLOGICAL RESOURCES

The area considered for cumulative impacts to biological resources consists of the City and immediately surrounding lands and waterways. While the majority of growth is expected to occur through infill and redevelopment, future development could occur on or adjacent to undeveloped land, which may result in incremental impacts to biological resources, including sensitive species, native habitat, wetlands, and wildlife movement. Future development could occur adjacent to the City's MSCP Subarea Plan/Multi-Habitat Planning Area (MHPA) and produce adverse edge effects. Implementation of the *City's General Plan,* City LDC, *City MSCP Subarea Plan, County of San Diego General Plan,* County of San Diego Regional General Permit 53, County of San Diego Vector Control Program, *Mission Trails Regional Park Master Plan Update*, Discovery Center, De Anza Cove Amendment to the MBPMP, *Regional Comprehensive Plan* (RCP), and *San Diego Forward* would result in direct and indirect effects that could lead to the cumulative loss of special-status species or hinder wildlife movement. In addition, cumulative impacts in the region could result from impacts to sensitive habitat, including riparian and wetland areas. Cumulative projects in the San Diego region would be required to comply with applicable habitat conservation plans or natural community conservation plans, as well as local policies and ordinances, and cumulative effects related to conflicts with plans and policies would not occur.

Preservation of the region's biological resources has been addressed through implementation of regional habitat conservation plans, including the City's MSCP Subarea Plan, *County of San Diego MSCP Subarea Plan*, and *Final City of San Diego Vernal Pool Habitat Conservation Plan*. The *County of San Diego MSCP Subarea Plan* is a long-term regional conservation plan established to protect sensitive species and habitats in San Diego County. The County of San Diego MSCP is divided into subarea plans that are implemented separately. The MWMP program area is within the City's MSCP Subarea Plan, and portions are within, intersect, or are adjacent to the MSCP Preserve area (i.e., MHPA). The County of San Diego MSCP planning effort is designed to address cumulative impacts through development of a regional plan that addresses impacts to Covered Species and habitats in a manner that ensures their conservation despite impacts of cumulative projects over the long term. The ultimate goal of the MSCP is the establishment of biological reserve areas in conformance with California's Natural Community Conservation Planning Act.

The MWMP program area is within the City's MSCP boundary, and portions are within, intersect, or adjacent to the MHPA. The MHPA is a "hard line" Preserve developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies biological core resource areas and corridors targeted for conservation where only limited development may occur. Preservation of habitat, planning in accordance with the biological resource conservation goals of the MSCP, and limiting impacts in accordance with the MSCP are intended to mitigate cumulative biological resource impacts, including to vernal pools and vernal

pool species that are now covered/addressed in the Final City of San Diego Vernal Pool Habitat Conservation Plan FEIR/EIS.

The Final City of San Diego Vernal Pool Habitat Conservation Plan FEIS/EIR includes implementation of a Mitigation Framework, which requires avoidance, minimization, and compensatory mitigation measures that would mitigate adverse impacts to vernal pool habitat and the covered species populations associated with covered projects and covered activities. Impacts were found not to be cumulatively considerable in the FEIR/EIS, and the MWMP would not affect vernal pools; thus, no contribution to a cumulatively considerable impact would occur as it relates to this plan.

As discussed in Section 5.3, Biological Resources, with the exception of some long-term indirect impacts to sensitive vegetation communities, the MWMP would have significant impacts related to special-status species, sensitive habitat, wetlands, conflict with the MSCP MHPA, and adverse edge effects, which would be reduced to less than significant with mitigation measures incorporated. The MWMP would have less-than-significant impacts related to wildlife movement and would not contribute to cumulative impacts related to wildlife movement (Issue 4).

The MWMP has incorporated City-wide drainage analyses with the intent of selecting and prioritizing for maintenance the facilities determined to have a high flood risk while avoiding facilities within the MHPA that contain sensitive vegetation wherever possible. As an essential public project (SDMC 143.0150(d)), the MWMP is a compatible land use within the MHPA and MSCP Subarea Plan.

Cumulative impacts to sensitive vegetation communities from implementation of the MWMP are not expected to be significant since all activities proposed are in conformance with the regional and City plans described above. In addition, no vernal pools, native grassland, or Tier I (i.e., oak woodland) habitats would be impacted as part of the MWMP. The MWMP would result in impacts to 14.72 acres of MHPA lands. Impacts would be within existing channels and infrastructure in disturbed and developed areas within the MHPA boundary. Impacts to Tier II, Tier IIIA, and Tier IIIB (i.e., coastal sage scrub, chaparral, and non-native grassland) are cumulatively less than one acre, are located primarily outside the MHPA, and occur in mostly separate, distinct urban settings such that the cumulative effect on habitat availability for sensitive species and other habitat functions is negligible and less than significant. Furthermore, activities undertaken through the MWMP are anticipated to be consistent with the MSCP, and Environmental Protocols (EPs) and mitigation measures described in Section 5.3, Biological Resources, would minimize the potential for impacts to sensitive vegetation communities, jurisdictional aquatic resources, sensitive plant species, and sensitive wildlife species (Issues 1, 2, 3, 5, and 6).

Long-term indirect impacts to sensitive vegetation communities may include adverse impacts associated with the spread of invasive plant or pest species, alteration of drainage patterns, and

reduction in water quality conditions as a result of routine, repeated maintenance and removal of vegetation and sediment. Implementation of EPs (see Section 5.3.5), including methods for successful removal of invasive species (**EP-BIO-4**), proper treatment of all woody debris removed from facilities to avoid the spread of shot-hole borer (**EP-BIO-6**), consistency with the MSCP/MHPA – Land Use Adjacency Guidelines (**EP-LU-1**), and preparation of a Water Pollution Control Plan (**EP-WQ-1**). In addition, implementation of compensatory mitigation sites may require boundary adjustments to the MHPA to add mitigation areas that are not currently within the MHPA to the MSCP. Proposed future MHPA boundary line adjustments would not conflict with the MSCP Subarea Plan with implementation of **EP-LU-2**. These EPs would reduce the severity of those potential impacts to less than significant.

However, in the case where compensatory wetlands mitigation is delayed, the potential for adverse impacts to sensitive vegetation communities due to alteration of drainage patterns and/or reduction in water quality conditions would still be potentially significant with mitigation (**MM-BIO-1a** and **MM-WQ-1**). These long-term indirect impacts to sensitive vegetation communities would be significant and unavoidable.

Thus, the MWMP's incremental contribution to biological resource impacts **would not be cumulatively considerable** with the exception of certain long-term, indirect impacts where compensatory wetlands mitigation is delayed. In these cases, the potential reduction in water quality conditions **would be cumulatively considerable.**

6.2.4 GREENHOUSE GAS EMISSIONS

Because of the broad nature of GHG emissions, it is not feasible to analyze GHG emissions solely on an individual project level. Unlike air quality impacts, which could result in more localized or location-specific effects (e.g., carbon monoxide hotspots), any discussion and evaluation of GHG emissions already involves a cumulative-level assessment. Cumulative plans and projects in the region that have been determined to have significant unavoidable impacts related to GHG emissions include *San Diego Forward, the San Diego International Airport Development Plan*, and the Preserve at Torrey Highlands. Although San Diego Forward is designed to reduce GHG emissions, total GHG emissions for the San Diego region were determined to not be reduced to the levels needed to meet Executive Order B-30-15 or Executive Order S-3-05 goals of reducing California's GHG emissions to 40% below 1990 levels by 2030, or 80% below 1990 levels by 2050, representing significant cumulative GHG impacts in the region. The *San Diego International Airport Development Plan* and Costa Verde Revitalization were determined to generate a significant amount of GHG emissions and conflict with plans, and the Preserve at Torrey Highlands project was determined to be inconsistent with the growth projections in the City's *Climate Action Plan*; therefore, they would contribute to significant unavoidable cumulative GHG impacts. Thus, cumulative impacts in the San Diego region

related to GHG emissions (Issue 1) and conflicts with plans, policies, or regulations adopted to reduce GHG emissions (Issue 2) would occur.

As discussed for Issue 1 in Section 5.4, Greenhouse Gas Emissions, emissions presented represent the project-level emissions of each representative project and the programmatic-level emissions in the annual summation; neither is used to determine significance. Program-level activities could generate additional emissions, but none of the program-level activities would result in a land use change that would generate emissions greater than those assumed in the City's *Climate Action Plan*. The MWMP's consistency with the City's *Climate Action Plan* is assessed below, and impacts would be less than significant.

As discussed for Issue 2, the MWMP would not result in a land use change or permanent development that would require the use of energy or water, nor would it result in permanent regular vehicle trips; therefore, the MWMP would be consistent with Climate Action Plan Strategies 1 through 3. With implementation of **EP-SW-1** through **EP-SW-8**, the MWMP would not impede implementation of Climate Action Plan Strategy 4. The MWMP would also not conflict with Climate Action Plan Strategy 5; therefore, impacts would be less than significant. Potential cumulative impacts, in combination with the proposed MWMP, would be **not be cumulatively considerable.**

6.2.5 HEALTH AND SAFETY/HAZARDS

The cumulative setting for health and safety/hazards includes the City and immediate surrounding area. Regional growth and development facilitated by the City General Plan, *County of San Diego General Plan*, Pure Water San Diego Program, De Anza Cove Amendment to the MBPMP, and *San Diego Forward* could include projects located on hazardous material sites, as listed pursuant to Government Code Section 6596.25; on sites that have contamination from previous agricultural uses (Issues 2 and 4); or on land uses that involve the use, disposal, or transport of hazardous materials. Existing or proposed schools could also potentially be located near facilities that could emit hazardous emissions or handle hazardous materials (Issue 3). Additionally, localized construction activities under regional plans and cumulative projects identified in Table 6-1 could uncover contaminated substances that may potentially impact construction workers and nearby sensitive receptors. However, these risks related to hazardous materials would be site-specific. Moreover, all future development would be required to comply with applicable federal, state, and local regulations related to the transportation, storage, use, disposal, and cleanup of hazardous materials, which would minimize the potential for significant impacts related to hazardous materials to occur.

As discussed in Section 5.5, Health and Safety/Hazards, due to the potential for known or unknown hazards or contaminated soils to be present at MWMP facilities proposed for maintenance or repair, monitoring would be conducted for activities (**EP-HAZ-1**) located within 200 feet of open/active

sites or 100 feet of closed/inactive sites with known soil contamination or if unexpected hazardous materials are encountered (**EP-HAZ-3**). Recommended monitoring would be required at specific sites, and a *Hazardous Materials Contingency Plan* (**EP-HAZ-2**), when implemented, would serve to reduce impacts to below a level of significance. Although hazardous materials handling may increase during construction of cumulative projects and during maintenance and repair activities for the MWMP, compliance with required regulations and implementation of a *Hazardous Material Contingency Plan* would reduce potential cumulative impacts. Therefore, the MWMP would not have a cumulatively considerable contribution to impacts related to exposure to hazardous materials.

Due to its climate, topography, and type of vegetation, the San Diego region is prone to fires, both in wildland and urbanized areas. Buildout of the City General Plan, *County of San Diego General Plan*, and *San Diego Forward* would result in regional population growth and expansion of the wildland-urban interface by new development, thereby significantly increasing the number of people exposed to wildland fire hazards (Issue 1a – 1d). Incremental impacts related to wildland fire hazards would combine to create a significant cumulative impact in the San Diego region. As discussed in Section 5.5, Health and Safety/Hazards, the MWMP would have a less-than-significant impact related to wildfires. The MWMP would comply with applicable regulations and City precautions related to fire risk, and vegetation removal under the MWMP would, in some cases, have the potential to reduce fire risk by reducing fuel loads. Therefore, the MWMP would not have a cumulatively considerable contribution to impacts related to wildfires.

Given all of the above, the MWMP's incremental contribution to impacts related to health and safety/hazards **would not be cumulatively considerable**.

6.2.6 HISTORICAL, ARCHAEOLOGICAL, AND TRIBAL CULTURAL RESOURCES

The cumulative impact area for historical, archaeological, and tribal cultural resources is the City and its immediate vicinity. Future development resulting from plans and projects would involve ground-disturbing activities that would have the potential to result in impacts to historical, archaeological, or tribal cultural resources, as well as impacts associated with alteration or demolition of historic structures or landscapes. Impacts on built-environment and archaeological and tribal cultural resources tend to be individual in nature, and specific to the context of the resource and to the aspects of integrity that contribute to a resource's eligibility for listing in the California Register of Historical Resources or National Register of Historic Places. Nevertheless, historic, archaeological, and tribal cultural resources are ubiquitous, and because their individual significance is unknown until analyzed, potential impacts on historical, archaeological, and tribal cultural resources caused by cumulative projects can collectively contribute to an incremental loss to the aggregate of nonrenewable cultural resources in the environment. In addition, implementation of multiple

projects can result in cumulative impacts on particular resources, such as historic districts or landscapes that have not yet been recorded or discovered.

Cumulative plans, programs, and projects in the San Diego region, including the City General Plan, City LDC, RCP, *San Diego Forward, Morena Corridor Specific Plan, San Diego International Airport Development Plan,* County of San Diego Vector Control Program, *UC San Diego Long-Range Development Plan, Balboa Avenue Station Area Specific Plan,* City Capital Improvement Program, Pure Water Program, Legacy International Center Project, *Mission Trails Regional Park Master Plan Update,* Discovery Center, Riverwalk Project, Avion Property, and Town and Country Project, would have the potential to result in cumulative impacts associated with the loss of historical, archaeological, and/or tribal cultural resources. Development related to these plans, programs, and projects could involve ground disturbance and substantial alteration, relocation, or demolition of historic buildings, structures, objects, landscapes, and sites that could significantly impact historical and archaeological resources (Issue 1), human remains (Issue 2), or tribal cultural resources (Issue 3), including previously undiscovered cultural resources.

As described in Section 5.6, Historical, Archaeological, and Tribal Cultural Resources, known archaeological and built-environment resources exist within the MWMP's area of potential effect, and the potential also exists that unknown cultural resources are present. The MWMP area of potential effect also includes lands of significance to California Native American tribes culturally affiliated with the area, and known tribal cultural resources in proximity to the area of potential effect. The MWMP would have potentially significant impacts on archaeological resources, historical resources, human remains, and tribal cultural resources, which would be reduced to less than significant after implementation of mitigation measures. Implementation of the mitigation measures described in Section 5.6 include procedures and protections that would ensure that potential impacts to the built-environment, archaeological, and tribal cultural resources resulting from the MWMP would be less than significant (Issues 1, 2, and 3). Thus, the MWMP's incremental contribution to the potential loss of cultural resources **would not be cumulatively considerable**.

6.2.7 HYDROLOGY

The cumulative impacts study area for hydrology includes the San Dieguito, Los Peñasquitos, Mission Bay, San Diego River, Pueblo San Diego, Sweetwater, Otay, and Tijuana River watersheds. The cumulative effects of past and current projects have resulted in alterations to portions of watersheds from urban development that have increased the amount of impervious surfaces and runoff (Issue 1) and resulted in alterations to drainage patterns (Issue 2).

Plans, programs, and projects considered in this cumulative analysis, including the City General Plan, *County of San Diego General Plan*, City LDC, County of San Diego Vector Control Program, Pure Water

San Diego Program, *Mission Trails Regional Park Master Plan Update,* Costa Verde Revitalization, Riverwalk Project, De Anza Cove Amendment to the MBPMP, and City Capital Improvement Program, would involve development that would result in a cumulative impact to hydrology by increasing impervious surface area and associated increased rates of surface runoff. Construction of cumulative projects would also entail grading and other earth-moving activities that could result in temporary and short-term, localized soil erosion. However, with compliance with regulations limiting erosion-related impacts, these site-specific impacts would not be expected to combine with the effects of other regional activities. The MWMP, along with other projects occurring in the area, would be required to comply with applicable federal, state, and local water quality regulations, which would reduce impacts related to hydrology, including alteration of drainage patterns such that flooding, erosion, or siltation would increase. Projects of more than 1 acre (which comprise the majority of the projects in the cumulative scenario) would be required to obtain coverage under the National Pollutant Discharge Elimination System Construction General Permit, which requires project proponents to identify and implement storm water best management practices (BMPs) that effectively control erosion and sedimentation and other construction-related pollutants. The City's Storm Water Standards Manual also requires smaller projects (less than 1 acre) to implement a minimum set of water quality BMPs.

The typical long-term effect of substantial increases in impervious surfaces is that peak flows within the watershed's drainages are greater in magnitude, shorter in duration, and more responsive to storm events, since a greater portion of precipitation is carried by surface runoff rather than percolated into the soil. These effects are undesirable with respect to flood hazards, water quality, and habitat quality. As described in Section 5.7, Hydrology, maintenance activities proposed under the MWMP would not result in a substantial increase in impervious surfaces and associated increases in runoff (Issue 1).

Maintenance of storm water facilities under the MWMP would have the potential to increase the conveyance capacities and velocities of flow through removal of accumulated vegetation and sediment (Issue 2). Increased flow velocities could result in erosion of earthen-bottom facilities and sedimentation of downstream areas; however, implementation of **EP-HYD-1**, requiring post-maintenance erosion control, would reduce the potential for long-term impacts related to erosion. Given the foregoing, the MWMP's incremental contribution to hydrology impacts **would not be cumulatively considerable**.

6.2.8 LAND USE

The cumulative setting for land use consists of the City and its immediate vicinity. Review of applicable regional land use plans identified potentially significant cumulative land use impacts in the San Diego region. Plans with potential impacts related to land use include the City General Plan,

City LDC, City MSCP Subarea Plan, *County of San Diego MSCP Subarea Plan*, RCP, *San Diego Forward,* San Diego International ALUCP, San Diego International Airport Development Plan, *Mission Trails Regional Park Master Plan Update,* Costa Verde Revitalization, Riverwalk Project, Discovery Center, De Anza Cove Amendment to the MBPMP, and Pure Water San Diego Program. Future development to accommodate projected population growth in the region would result in land use changes, particularly to increasingly urbanized uses and greater development intensity in existing urban centers. While a substantial portion of future development within the City and County is expected to consist of infill and redevelopment, as development continues to occur, land use conflicts or incompatibilities, such as those between agriculture or other non-urban uses and urban development at the urban growth boundary, could intensify. Cumulative development may result in conflicts with established land use and planning documents and land use policies, and could require approvals of deviations or variances (Issue 2), conflict with community plans (Issue 1), and conflict with habitat conservation plans (Issue 3). However, these would be subject to review and approval on a case-by-case basis as cumulative projects are developed.

As described in Section 5.8, Land Use, MWMP would be largely consistent with the goals and policies of the City's General Plan and Community Plans, and would not preclude the attainment of their primary intent (Issue 1). The MWMP would require approval of a deviation from the City's Environmentally Sensitive Lands regulations due to unavoidable impacts to wetlands during maintenance activities; however, mitigation measures identified in Section 5.3, Biological Resources, would reduce impacts to wetlands to less than significant (Issue 2). In addition, with implementation of **EP-LU-1**, requiring adherence to the MSCP Land Use Adjacency Guidelines, the MWMP would not conflict with the City's MSCP Subarea Plan (Issue 3).

In addition, implementation of compensatory mitigation sites may require boundary adjustments to the MHPA to add mitigation areas that are not currently within the MHPA to the MSCP. Proposed future MHPA boundary line adjustments would not conflict with the MSCP Subarea Plan with implementation of **EP-LU-2**.

Maintenance and repair activities undertaken through the MWMP would be limited to existing storm water facilities located on City-owned properties, within public rights-of-way, and within drainage easements dedicated to the City. As such, the MWMP would not introduce new land use conflicts. Furthermore, improved flood control resulting from maintenance would reduce underlying conflicts between inadequately maintained storm water facilities and adjacent land uses. Given the foregoing, the MWMP's incremental contribution to land use impacts in the San Diego region **would not be cumulatively considerable**.

6.2.9 NOISE

The area considered for cumulative noise impacts is the City. Given the anticipated growth in the region, new sources of noise and vibration may be generated by increased traffic and construction and operation of new development, resulting in short-term construction-related noise impacts and long-term increases in ambient noise levels (Issue 1), which could exceed noise standards (Issue 2) or generate excessive vibration (Issue 3). Plans, programs, and projects considered in the cumulative impact analysis that would have significant noise impacts are the City General Plan, *County of San Diego General Plan, San Diego Forward, Morena Corridor Specific Plan, San Diego International Airport Development Plan,* Pure Water San Diego Program, North City Project, Costa Verde Revitalization, Discovery Center, Riverwalk Project, Avion Property, De Anza Cove Amendment to the MBPMP, and Mid-Coast Corridor Transit Project. Cumulative noise impacts would generally be associated with improvements to regional transportation corridors and stationary sources, such as industrial land uses. The MWMP could potentially result in cumulative noise impacts when combined with other past, present, and reasonably foreseeable future projects in the program area. Noise levels decrease as the distance from the noise source to the receiver increases. Therefore, only noise sources in the immediate vicinity of facility maintenance activities would have the potential to combine with the MWMP to cause a cumulative noise impact.

As described in Section 5.9, Noise, maintenance and repair activities under the MWMP would generate temporary increases in ambient noise levels associated with the use of heavy equipment and transport of materials to and from maintenance sites (Issue 1). In some cases, these activities could exceed the City's noise standards (Issue 2); however, these impacts would be less than significant with the implementation of **MM-NOI-1**. The MWMP would not result in the generation of excessive groundborne vibration (Issue 3). Incorporation of **MM-NOI-1** would ensure that the MWMP's noise impacts would be below the City's established standards and would not result in a substantial contribution to cumulative noise increases. Therefore, the MWMP's incremental contribution to noise impacts **would not be cumulatively considerable**.

6.2.10 PALEONTOLOGICAL RESOURCES

Similar to historical resources, paleontological resources are site-specific resources, although cumulative impacts to paleontological resources could occur due to the continued pressure for development and redevelopment in the region that requires extensive excavation into fossil-bearing formations (Issue 1). Paleontological resources within the MWMP program area are finite and are viewed on a regional scale. Effects on paleontological resources depend on the paleontological sensitivity of the formation and the depth/extent of excavation required for each cumulative project. As shown in Table 6-1, plans, programs, and projects that have been determined to have significant unavoidable impacts on paleontological resources include the City General Plan, City LDC, RCP, *San*

Diego Forward, Morena Corridor Specific Plan, Balboa Avenue Station Area Specific Plan, Pure Water San Diego Program, and Mid-Coast Corridor Transit Project. Site-specific losses of paleontological resources from individual plans, programs, and projects could combine to result in the cumulative loss of paleontological resources in the region. However, pursuant to LDC Section 142.0151, projects would be required to be screened for grading quantities and geologic formation sensitivity, and to apply the appropriate requirements for paleontological monitoring in accordance with the General Grading Guidelines for Paleontological Resources in the Land Development Manual, which would reduce potential impacts to paleontological resources.

As described in Section 5.10, Paleontological Resources, the MWMP would have a less-than-significant impact on paleontological resources with implementation of **EP-PAL-1**. This EP requires compliance with LDC Section 142.0151, which would ensure that any fossil resources discovered during maintenance activities would be preserved and documented (Issue 1). Thus, the MWMP's incremental contribution to paleontological resource impacts **would not be cumulatively considerable**.

6.2.11 SOLID WASTE

Implementation of the MWMP, in combination with other proposed, approved, and reasonably foreseeable projects in San Diego County, could result in a cumulative increase in solid waste generation and, thus, demand for solid waste service and landfill capacity. The *San Diego County General Plan* EIR also identified significant cumulative impacts related to sufficient landfill capacity (Issue 1) due to growth in San Diego County; new landfill facilities and/or recycling facilities would be needed to meet cumulative waste management needs (County of San Diego 2011). As described in Section 5.11, Solid Waste, the Miramar Landfill, which is expected to be the primary landfill used by the MWMP, is expected to have sufficient capacity until 2025, although capacity projections typically depend at least partially on meeting waste diversion targets. Other solid waste disposal facilities in San Diego County that could accommodate refuse include the Otay Landfill and Sycamore Landfill, which are expected to have sufficient capacity until 2030 and 2042, respectively. The permitted throughput at the Miramar Landfill is sufficient to accept approximately 2.6% of the maximum permitted daily tonnage; however, that throughput would consume already limited capacity.

Although MWMP activities would consume landfill capacity, there would be no increase above existing baseline conditions. There would be no increase in the amount of solid waste that is currently handled and transferred to the Miramar Landfill during existing maintenance of storm water facilities. In the event that the Miramar Landfill reaches capacity and no longer accepts waste within the life span of the MWMP, another permitted solid waste facility would be designated for disposal. In addition, activities under the MWMP would comply with the City's most current Whitebook regarding waste management and waste reduction. Further, specific EPs have been identified in the *Waste Management Plan* and in Section 5.11, Solid Waste, to reduce the amount of

solid waste sent to the landfill by 50%. While it cannot be ensured that the targeted 50% diversion of materials from disposal will be attained, measures specified for the MWMP provide measures above and beyond the baseline condition. These waste diversion measures will contribute to an increased waste diversion rate. Thus, while it is unknown how much solid waste could be diverted, the potential contribution of solid waste from MWMP activities would be less than significant.

As discussed in Section 5.11, Solid Waste, regarding Issue 2, due to the uncertainty regarding the availability of suitable reuse sites for excavated material, the potential for material to be contaminated and associated regulatory constraints, and the inability to recycle some types of material recovered from storm water facilities, activities under the MWMP would not meet the 50% waste diversion goal set by the City's Transportation & Storm Water Department *Waste Diversion Plan*. The MWMP would have significant and unavoidable impacts related to Issue 2 (see Section 5.11, Solid Waste) because it may not achieve the diversion rate required by the City's Transportation & Storm Water Department Waste Diversion Plan, and thus would **contribute to a cumulative impact** in the region.

6.2.12 WATER QUALITY

The geographic setting for the cumulative water quality analysis includes the San Dieguito, Los Peñasquitos, Mission Bay, San Diego River, Pueblo San Diego, Sweetwater, Otay, and Tijuana River watersheds. For surface water, the cumulative study area includes the water bodies within each of the watersheds in the City's jurisdiction. For groundwater, the cumulative study area includes groundwater basins within the City's jurisdiction (San Pasqual Valley Basin, San Dieguito Basin, Santee/El Monte Basin, Mission Valley Basin, San Diego Formation, and the Tijuana Basin), as well as all subsurface waters that occur in fully saturated zones within soils and other geologic formations, regardless of whether they occur in an aquifer of identified groundwater basin.

Plans, programs, and project that may have significant water quality impacts include the City's General Plan, City LDC, *County of San Diego General Plan,* County of San Diego Vector Control Program, Pure Water San Diego Program, *Mission Trails Regional Park Master Plan Update,* Costa Verde Revitalization, Riverwalk Project, De Anza Cove Amendment to the MBPMP, and City Capital Improvement Program. The cumulative effects of past and current projects have resulted in substantial water quality problems in the region's major waterways and, because water quality problems are generally cumulative in nature, federal, state, and local regulations aim to reduce pollutant concentrations within storm water discharges to the maximum extent practicable. Continued urban development within the hydrologic units in the region, and watersheds therein, would increase impervious areas and activities that generate pollutants, which could result in additional water quality impacts from storm water runoff. Cumulative projects would be required to comply with water quality standards, including the Clean Water Act, Porter-Cologne Water Quality

Control Act, National Pollutant Discharge Elimination System, applicable basin plans, and local regulations (including the City's Storm Water Standards Manual), which would minimize cumulative water quality impacts. The MWMP would adhere to the City's Storm Water Standards Manual (**EP-WQ-1**) and, thus, would not contribute to a cumulative impact related to Issue 1.

There are several regional initiatives that are being implemented to meet water quality objectives, reduce pollutant loads, address high-priority pollutants, and improve water quality. The City has developed Water Quality Improvement Plans, which are also incorporated into the City's *Jurisdictional Runoff Management Plan*, for the watersheds in the City's jurisdiction. These Water Quality Improvement Plans identify high-priority water-quality conditions and strategies to reduce pollutant discharges to water bodies. The MWMP, along with other projects occurring in the program area, would be required to comply with applicable federal, state, and local water quality regulations aimed to reduce impacts related to water quality. Compliance with the National Pollutant Discharge Elimination System Construction General Permit would also require implementation of storm water BMPs that effectively control erosion and sedimentation and other construction-related pollutants. The City's Storm Water Standards Manual also requires implementation of a minimum set of water quality BMPs.

During maintenance/construction activities associated with the MWMP, and for past, present, and reasonably foreseeable future projects, temporary and localized increases in erosion and pollutant discharges to surface water and/or groundwater could occur. Application of herbicides used in MWMP vegetation management activities would be required to comply with regulations to limit water quality impacts. Where MWMP maintenance activities would result in loss of wetlands, and compensatory mitigation has not yet been constructed at the time of maintenance, one of three equally suitable beneficial water quality activities would be implemented in accordance with **MM-WQ-1**. However, these offsetting beneficial water quality activities are based on the best available data, which at this time cannot precisely calculate water quality conditions prior to and after maintenance and mitigation due to extensive site-specific and independent conditions, and other variables. Therefore, potential long-term water quality impacts would remain significant and unavoidable, and thus would **contribute to a cumulative impact** in the region.

THIS PAGE INTENTIONALLY LEFT BLANK FOR DOUBLE-SIDED PRINTING

CHAPTER 7 EFFECTS NOT FOUND TO BE SIGNIFICANT

Section 15128 of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.) requires that an Environmental Impact Report briefly describe potential environmental effects that were determined not to be significant and therefore were not discussed in detail. The environmental issues discussed in the following sections are not considered significant, and the reasons for the conclusion of no impact or less-than-significance impact are discussed below.

7.1 AESTHETICS/VISUAL EFFECTS AND NEIGHBORHOOD CHARACTER

Light Glare and Shading

Potential aesthetic and visual impacts associated with the proposed City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP) are discussed in Section 5.1, Aesthetics/Visual Effects and Neighborhood Character. Regarding potential light, glare, and shading impacts, the City's *CEQA Significance Determination Thresholds* (City of San Diego 2016) and Appendix G of the CEQA Guidelines focus on whether a project would create new sources of substantial light or glare that would adversely affect day or nighttime views in the area. The proposed MWMP would only involve temporary clearing and maintenance activities during daylight hours (except under emergency situations). Lights may be necessary during emergency situations, although their use would be temporary and limited to the work area. The MWMP would not involve the construction of glare-inducing objects. No buildings or similar built structures would be constructed because of the proposed MWMP. No light fixtures would be built or used during implementation of the MWMP. Therefore, impacts would be **less than significant** related to light, glare, and shading.

7.2 AGRICULTURAL RESOURCES

Conversions or Conflicts with Agricultural or Forest Land

With regard to potential agricultural impacts, the City's *CEQA Significance Determination Thresholds* and CEQA Appendix G Guidelines focus on whether the MWMP would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance designated by the Farmland Mapping and Monitoring Program to non-agricultural use, conflict with existing zoning for agricultural use or a Williamson Act contract, or cause changes in the existing environment that could result in conversion of Farmland to non-agricultural use. The Guidelines also include a threshold related to the conversion of forest land or timberland. The majority of the storm water facilities are not located within areas designated as Farmland by the Department of Conservation Farmland Mapping and Monitoring Program and are not located on lands zoned for agricultural use or a Williamson Act contract.

Smugglers Gulch channel, located north of Monument Road in the Tijuana River Valley, is adjacent to a 35-acre parcel that is designated as Prime Farmland and a 30-acre parcel designated as Farmland of Local Importance. Several other drainage system facilities in the Otay Valley area, Miramar Canyon, and Los Peñasquitos Canyon are located adjacent to areas designated as Farmland of Statewide Importance, Farmland of Local Importance, or Grazing Land. Only a few drainage facilities are located on lands zoned for agricultural use (particularly in the Tijuana River Valley and Los Peñasquitos Canyon areas), and few agricultural operations currently exist in these areas.

Lack of maintenance on storm water facilities adjacent to agricultural land could cause active or fallow agricultural fields to be flooded. Soils that are used, or were used, for agricultural production typically include some level of contamination due to the application of pesticides and other possibly hazardous chemicals. If agricultural fields were to become flooded due to lack of maintenance on adjacent storm water facilities, a substantial amount of contaminated soils would have the potential to end up in the storm water system and, eventually, downstream water bodies. Thus, maintaining storm water infrastructure and preventing flood flows that do not exceed capacity is an objective of the MWMP and necessary to prevent flooding of adjacent agricultural fields.

Maintenance of storm water facilities would not preclude or impede future agricultural use in areas that could, in the future, be put into agricultural production because no new facilities, maintenance activities, or staging areas are proposed on land available for future agricultural production. All activities would be conducted within existing storm water facilities, and adjacent agricultural land would not be impacted. There would be no change to baseline conditions. In addition, there are no forest lands, timberlands, or areas zoned for Timberland Production (as defined in Public Resources Code Sections 1220(g) and 4526) within the City that the proposed MWMP could impact. Thus, the proposed MWMP would have **less than significant** impacts to agricultural and forestry resources.

7.3 AIR QUALITY AND ODOR

With regard to potential air quality impacts, the City's *CEQA Significance Determination Thresholds* includes a threshold that addresses the substantial alteration of air movement. The following topic was found not to result in potential air quality impacts.

Substantial Alteration of Air Movement

The proposed MWMP would not involve the construction or erection of any buildings, structures, or objects that could alter the physical landscape in such a way that substantial alteration of air movement would occur. Maintenance activities under the MWMP would be conducted on the ground within channels, ditches, and other storm water facilities that do not require the use of tall structures or objects and would not involve the construction of any buildings. **No impact** to air movement would occur as a result of the proposed MWMP.

7.4 ENERGY

With regard to potential energy impacts, the City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines focus on whether a proposed project would use excessive amounts of fuel, energy, or power. The following topic was found not to result in potential energy impacts.

Use Excessive Amounts of Fuel, Energy, or Power

Implementation of the proposed MWMP may result in a small increase in consumption of electricity, natural gas, and petroleum during proposed maintenance activities. The amount of electricity used during maintenance would be minimal; typically demand would stem from the use of electrically powered hand tools during the hours of maintenance activities. The electricity used for maintenance would be temporary and minimal. Natural gas is not anticipated to be required during maintenance. Any minor amounts of natural gas that may be consumed as a result of maintenance would be temporary and negligible. Petroleum would be consumed throughout maintenance activities. Fuel consumed by construction equipment would be the primary energy resource expended over the course of maintenance, and vehicle miles traveled associated with the transportation of materials and construction worker commutes would also result in petroleum consumption. Heavy-duty construction equipment associated with maintenance activities and haul trucks involved in relocating dirt are assumed to use diesel fuel. Workers would travel to and from project sites throughout the duration of maintenance activities. It is assumed that workers would travel to and from sites in gasoline-powered vehicles. Maintenance activities would be required to comply with California Air Resources Board's Airborne Toxics Control Measure, which restricts heavy-duty diesel vehicle idling time to 5 minutes, which would minimize fuel consumption. Also, in accordance with mitigation measure **MM-AQ-1** (see Section 4.3, Air Quality), the maintenance activities would involve use of Tier 4 Interim construction equipment, which would reduce petroleum usage. Therefore, because electricity, natural gas, and petroleum use during proposed maintenance activities would be temporary and relatively minimal, and would not be wasteful or inefficient, impacts would be **less than significant**.

The MWMP would not involve construction of buildings, and would only involve maintenance activities for existing flood control infrastructure that is already in place throughout the City; thus, the Title 24 of the California Code of Regulations, Part 6 and Part 11 would not apply. Therefore, the MWMP would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be less than significant

7.5 GEOLOGIC CONDITIONS

Geologic, Soil, and Seismic-Related Hazards

With regard to potential geology and soil impacts, the City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines focus on whether a project would expose people or structures to potential substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides, or result in substantial soil erosion or topsoil loss. The City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines also specify that a significant impact to geology and soils would occur if a project site is located on an expansive or unstable geologic unit or soil, or includes soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for wastewater disposal.

The proposed MWMP would not involve the construction of buildings, housing, or other habitable structures, and would, therefore, not expose people or structures to geology or soils impacts. The only issue that could arise would be related to erosion and sedimentation, which is discussed in Section 5.7, Hydrology, and Section 5.12, Water Quality. As described in Chapter 4, Project Description, the proposed MWMP would involve ground-disturbing activities such as sediment excavation/removal, vegetation management, bank maintenance and repair, temporary stockpiling, sediment and vegetation disposal, and temporary access/loading and staging activities. Grading for temporary access roads, stockpiling, or required earthwork for bank reconstruction could potentially cause or contribute to geologic hazards, such as slope instability or adverse settlement. These impacts would be avoided if activities are designed and constructed in accordance with standard geologic and geotechnical practices. The proposed MWMP would follow all applicable seismic standards and geotechnical engineering practices when bypass structures, access roads, or stockpiling of materials is necessary. As further detailed in Chapter 4, Project Description, when needed, an evaluation would be conducted to determine bank stability, and necessary stabilization would be implemented in locations where bank or channel erosion was documented during the site assessments and the engineering team deemed the condition to need additional evaluations. Thus, the following Environmental Protocol (**EP**) **GEO-1** would be implemented when earthen bank repair is contemplated:

EP-GEO-1 **Preparation of Geotechnical Report.** Projects that involve earthen bank repair activities as described in the *Municipal Waterways Maintenance Plan* (MWMP) are subject to compliance with Land Development Code (LDC) Section 142.0131. When earthen bank repair is necessary for a specific project, City of San Diego (City) Transportation & Storm Water Department shall ensure a geotechnical report is prepared in accordance with the Guidelines for Geotechnical Reports in the City's Land Development Manual, and the earthen bank repair design incorporates the

recommendations of the geotechnical report. The geotechnical report shall also be submitted for review during the subsequent review process.

MWMP activities, such as stockpiling and grading, would also be subject to best management practices and would be installed, inspected, and maintained as identified in the *Water Pollution Control Plan*. Finally, in areas where potentially erosive velocities have been identified, the implementation of post-maintenance erosion control measures, such as check dams, may be required. Thus, the proposed MWMP would not cause substantial impacts, either directly or indirectly, related to geology and soils, and this impact would be **less than significant**.

7.6 GROWTH INDUCEMENT

Directly or Indirectly Induce Substantial Growth

With regard to potential growth-inducing impacts, the City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines focus on whether a proposed project would either directly or indirectly induce substantial growth in an area, alter the planned growth rate of the population of an area, propose infrastructure that could support future development, displace substantial numbers of existing housing, or displace substantial numbers of people.

The proposed MWMP would not induce population growth because the MWMP does not include the construction of new housing or propose changes in land use that would increase density/intensity beyond what is planned. Nor does the MWMP include new or expanded infrastructure that could support future development.

Furthermore, the proposed MWMP would not result in the displacement of substantial numbers of people or housing because maintenance activities would occur within existing facilities, and no new facilities would be constructed that could potentially displace people or housing. Thus, existing residential land uses, housing, or other dwelling units would not be displaced due to the MWMP, and new housing would not be required.

Finally, maintenance of facilities identified in the MWMP would be conducted by existing City staff with assistance, as needed, from existing City contractors and would not create new jobs that would induce substantial population growth. Because the proposed MWMP would not directly or indirectly cause the displacement of people or housing, cause population growth, or require the construction of new housing, **no impacts** to population and housing would occur.

7.7 HEALTH AND SAFETY/HAZARDS

With regard to potential health and safety/hazards impacts, the City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines focus on whether a proposed project would either directly or indirectly expose people or the environment to wildfires, hazardous materials, or conditions; be located on a contaminated site or within an Airport Influence Area; or obstruct an emergency response or evacuation plan. The following topics were found not to result in potential health and safety/hazards impacts.

Hazards Due to Proximity to Airport

The existing storm water facilities proposed for maintenance under the MWMP are located throughout the City and have the potential to be located within an Airport Influence Area, a safety zone, a noise zone, an airspace protection zone, or an overflight zone. However, the proposed activities under the MWMP would not result in the construction of facilities or structures that could visually or physically obstruct flight paths or roads leading to the different airports. The MWMP would not require a change to air station flight operations, approach minimums, or departure routes. The MWMP would not interfere with aircraft communications systems, navigation systems, or other electrical systems. The MWMP does not include reflective lighting that would interfere with aircrew vision. Finally, the MWMP does not include development uses that would attract birds or waterfowl, such as, but not limited to, landfills or feed stations. For the above stated reasons, the proposed MWMP would not result in safety hazards for people residing or working in a designated Airport Influence Area. Impacts would be **less than significant**.

Impair or Interfere with an Emergency Response or Evacuation Plan

Maintenance activities to be conducted under the MWMP are not anticipated to interfere with an adopted emergency response plan or evacuation plan, nor would they substantially impede public access or roadway circulation. However, maintenance areas may occasionally encroach into streets or rights-of-way under the jurisdiction of the San Diego Metropolitan Transit System, North County Transit District, California Department of Transportation, and/or City, and could require temporary partial or full lane closures and diversion of traffic around these work areas. Temporary lane closures or traffic diversions have the potential to partially impede public access or interfere with a roadway designated for emergency access.

However, each of these agencies has requirements to obtain encroachment and/or traffic control permits prior to commencing work within their respective rights-of-way, which typically involve submittal of a Traffic Control Plan and related traffic control documentation. MWMP facilities that would encroach into these agencies' rights-of-way and would be subject to these regulations are identified in Appendix A of the MWMP (Appendix A of this Environmental Impact Report).

Prior to commencing work on the facilities that would encroach into rights-of-way, the City would ensure that all traffic control requirements are met and required permits are obtained. Thus, preparation of a Traffic Control Plan and applicable encroachment permits would ensure that safe, clearly marked, alternate routes around maintenance work are provided to prevent interference with an emergency response or evacuation plan. Therefore, impacts would be **less than significant**.

7.8 HYDROLOGY

With regard to potential hydrology impacts, the City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines focus on whether a proposed project would increase impervious surfaces and associated runoff, or substantially alter drainage patters due to changes in runoff flow rates or volumes. Potential impacts from flooding, tsunamis, or seiches are also addressed. The following topic was found not to result in potential hydrology impacts.

Flood, Tsunami, or Seiche Inundation Resulting in Risk for Release of Pollutants

The existing storm water facilities proposed for maintenance under the MWMP are located throughout the City and have the potential to be located within a flood, tsunami, or seiche zone. However, MWMP activities would not involve the containment of pollutants such that, if facilities are inundated, pollutants could be released into the environment. The purpose of well-maintained storm water facilities, which is a goal of the MWMP, is to convey flood water in a way that is safe to the public and the environment. Therefore, impacts would be **less than significant**.

7.9 LAND USE

With regard to potential land use impacts, the City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines focus on whether a proposed project would physically divide an establish community; be compatible with existing land use plans and policies, including airport land use plans; or result in the need for a deviation or variance. The following topics were found not to result in potential land use impacts.

Physically Divide an Established Community

A significant impact could occur if a project were sufficiently large enough or otherwise configured in such a way as to create a physical barrier within an established community (a typical example would be a project that involves a continuous right-of-way, such as a railroad, that would divide a community and impede access between parts of the community). Projects that typically have the potential to physically divide an established community are projects such as railroads, highways, airports, stadiums, etc., none of which are proposed as part of the MWMP. Maintenance under the

proposed MWMP would be limited to existing facilities, and no construction or development of additional storm water facilities is proposed. Impacts would be **less than significant**.

Compatibility with Airport Land Use Compatibility Plan

According to the City's *CEQA Significance Determination Thresholds*, land use compatibility impacts may be significant if a project would result in the following:

- Incompatible uses as defined in an airport land use plan or inconsistency with an airport's *Comprehensive Land Use Plan* as adopted by the Airport Land Use Commission to the extent that the inconsistency is based on valid data. CEQA, Section 21096 and 15154, requires this land use/health and safety analysis. For additional information, consult the California Airport Land Use Planning Handbook or the applicable *Comprehensive Land Use Plan*:
    - Brown Field (adopted September 21, 1981)
    - Montgomery Field (adopted July 27, 1984)
    - MCAS Miramar (adopted September 28, 1990, amended September 25, 1992)
    - Lindbergh Field (adopted February 28, 1992, amended April 22, 1994)

As stated previously, the existing storm water facilities are located throughout the City and have the potential to be located within an Airport Influence Area, a safety zone, a noise zone, an airspace protection zone, or an overflight zone. However, the proposed activities under the MWMP would not result in the construction of facilities or structures that could visually or physically obstruct flight paths or roads leading to the different airports. If the use of an unmanned aerial system (UAS; i.e., drone) is necessary to inspect an inaccessible area of a facility, the City (and its contractors) would be required to comply with the applicable guidelines, procedures, and regulations in place at the time.

The MWMP would not require a change to air station flight operations, approach minimums, or departure routes. The MWMP would not interfere with aircraft communications systems, navigation systems, or other electrical systems. The MWMP does not propose reflective lighting that would interfere with aircrew vision. Finally, the MWMP does not include development uses that would attract birds or waterfowl, such as, but not limited to landfills or feed stations. Therefore, the proposed MWMP would not conflict with the airport's comprehensive land use plan for any of the airports located within the City of San Diego. Impacts would be **less than significant**.

7.10 MINERAL RESOURCES

Loss in Availability of Significant Mineral Resources

For potential mineral resource impacts, the City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines focus on whether a project would result in the loss of availability of a known valuable mineral resource or in the loss of availability of a locally important mineral resource recovery site specified on a local general plan, specific plan, or other land use plan. The proposed MWMP would not cause impacts to mineral resources. Most of the storm water facilities associated with the MWMP would be located on previously disturbed or developed sites, which are designated as Mineral Resource Zone (MRZ) 1 or MRZ 3. MRZ 1 is defined as an area where information indicated that no significant mineral deposits are present or there is little likelihood for their presence; MRZ 2 is defined as an area where information indicates that significant mineral deposits are present or there is a high likelihood of their presence; and MRZ 3 is defined as an area containing mineral deposits the significance of which cannot be evaluated based on available information (Department of Conservation 1996). Because the proposed MWMP would only affect existing facilities that have already been built, mineral resource extraction would not likely take place in these areas.

Some portions of the storm water facilities associated with the proposed MWMP are located in areas classified as MRZ 2 by the State Geologist. Although activities under the proposed MWMP would remove accumulated sediment from storm water facilities, the sediment being removed has accumulated from upstream channels, and removal would not result in a loss of availability of mineral deposits with local or regional significance. In addition, maintenance at any individual channel or facility would not be large enough to allow economically feasible aggregate mining operations. The City has coordinated and will continue to coordinate operations that are adjacent to properties owned by other entities that also conduct channel maintenance or that have quarry operations to ensure that work does not interfere with their sediment removal work. The proposed MWMP would not prevent the recovery of on-site mineral resources; therefore, impacts would be **less than significant** as it relates to mineral resources.

7.11 NOISE

With regard to potential noise impacts, the City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines focus on whether a proposed project would increase ambient noise levels, be incompatible with the City's noise ordinance, or result in land uses that are not compatible with aircraft noise. The following topic was found not to result in potential noise impacts.

Transportation Noise or Incompatibility with Aircraft Noise

The proposed MWMP would not result in any long-term development, operational equipment, or new employees. Therefore, the proposed MWMP would not result in the exposure of people to current or future transportation noise levels that exceed standards established in the Transportation Element of the General Plan or in an adopted airport land use compatibility plan. Nor would the proposed MWMP result in land uses that are not compatible with aircraft noise levels as defined by an adopted airport land use compatibility plan. Maintenance under the proposed MWMP would be limited to existing storm water facilities. Therefore, impacts would be **less than significant**.

7.12 PUBLIC SERVICES AND FACILITIES

With regard to potential public services impacts, the City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines focus on whether a project would result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered governmental facilities, including fire protection, police protection, schools, parks, and other public facilities, in order to meet acceptable performance objectives.

Fire, Police, Schools, Other Public Facilities

The proposed MWMP would not cause increased demand for police and fire protection services, schools, or libraries, because the MWMP involves maintenance of existing storm water facilities. The proposed MWMP would not result in any population growth-inducing impacts, and therefore would not require improvements related to existing public services or cause negative impacts to existing public services. The proposed MWMP would improve storm water drainage in the City and reduce flooding that, if left unchecked, could cause damage to property and people. Because the proposed MWMP would not result in negative impacts to existing public services and would not necessitate improvements to existing public services, the proposed MWMP would have **no impact** on public services.

Parks and Recreation

With regard to potential park or recreation impacts, the City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines focus on whether a project would include new or expanded recreational facilities that may have a significant effect on the environment, or whether a project would increase the use of existing park or recreational facilities such that deterioration of the facilities would be accelerated.

The proposed MWMP would not involve the construction of parks or recreational facilities and would not create a need for new or expanded recreational facilities. As discussed in Section 7.6, Growth Inducement, the proposed MWMP would not cause an increase in population growth

because it involves maintaining existing facilities and structures. Therefore, the proposed MWMP would not place additional demand on existing recreational facilities in a manner that would warrant new or expanded facilities. The MWMP's clearing and maintenance activities could occur in environmentally sensitive lands that may be used for passive recreational uses. However, these clearing and maintenance activities would be infrequent, relatively short-term, and would be performed to protect the overall safety of nearby residents and businesses. If activities associated with the MWMP interfere with these recreational areas, it would be temporary, and upon completion of these activities, continued use and enjoyment of existing recreational facilities would resume without adverse effects. Therefore, the proposed MWMP would have a **less-than-significant** impact on parks and recreation facilities.

7.13 PUBLIC UTILITIES

Potential solid waste impacts associated with the proposed MWMP are discussed in Section 5.11, Solid Waste. With regard to potential public utility impacts (i.e., water, wastewater, and expansion of storm water drainage facilities), the City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines focus on whether a project would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, require or result in the construction or expansion of water or wastewater treatment facilities, or require or result in the construction or expansion of storm water drainage facilities. The City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines also specify that a significant environmental impact would occur if sufficient water supplies are not available to serve a project, or if adequate wastewater treatment capacity to serve a project is lacking.

Exceed Wastewater Treatment Requirements; or Require Construction or Expansion of Water or Wastewater Treatment Facilities, Storm Water Drainage Facilities, or Electrical Power, Natural Gas, or Telecommunications Facilities

The proposed MWMP would not result in the demand for additional wastewater treatment capacity, nor would it exceed the wastewater treatment requirements of the San Diego Regional Water Quality Control Board, since no new development or construction of facilities are proposed that could potentially generate wastewater. In addition, the proposed MWMP would not result in the construction or expansion of water or wastewater treatment facilities because no new demand for these services would be generated. As such, the proposed MWMP is not considered to be a growth-inducing project for which additional water demand or sewer capacity would be required.

In addition, as discussed in Appendix I, the proposed MWMP would not involve any capital improvements or other channel improvements, and therefore, would inherently not result in the construction or expansion of storm water facilities.

Further, the proposed MWMP would not involve the construction or expansion of electrical power, natural gas, or telecommunication facilities. Because the proposed MWMP would not necessitate improvements to existing public utilities, or require construction of new public utilities, impacts would be **less than significant**.

Sufficient Water Supplies Available to Serve the Project and Reasonably Foreseeable Future Development During Normal, Dry and Multiple Dry Years

The proposed MWMP would not result in the need for additional water supplies, beyond those currently used, in order to conduct maintenance activities. No additional demand would be placed on water purveyors based on implementation of the proposed MWMP, therefore, impacts would be **less than significant**.

7.14 TRANSPORTATION, CIRCULATION, AND PARKING

Excessive Traffic Generation, Traffic Hazards, and Parking

With regards to potential traffic and circulation impacts, the City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines focus on whether a proposed project would conflict with applicable plans, ordinances, or policies associated with performance of the circulation system or conflict with an applicable congestion management program. The City's *CEQA Significance Determination Thresholds* and Appendix G of the CEQA Guidelines also assign a significant impact to transportation and circulation if a project would cause changes in air traffic patterns, increase hazards due to a design feature or incompatible uses, result in inadequate emergency access, or conflict with adopted policies, plans, or programs involving public transit, bicycle, or pedestrian facilities. The proposed MWMP would result in temporary minimal increases in traffic on roadways due to construction and maintenance worker personal vehicles and vehicles carrying equipment to and from work sites.

For purposes of estimating trips generated by potential MWMP activities, a representative activity that requires a substantial amount of sediment and vegetation removal was chosen to conservatively demonstrate the estimated number of daily trips that could occur as a result of the worst-case activity. The worst-case activity allows for a conservative assessment of traffic impacts anticipated for other MWMP activities. The representative activity used to estimate the worst-case anticipated traffic impact was the Tijuana River Valley – Pilot Channel and Smuggler's Gulch Channel. Based on the expected timeline for representative project permit/extension issuance, it was

assumed that construction of the representative project would commence in November 2017[1] and would last approximately 20 weeks (100 days), ending in March 2018.

It is anticipated that 12 workers would be on the site and would generate 2 trips per day resulting in an average of 24 worker vehicle trips per day. Average vendor (delivery) truck trips were estimated to be approximately 10 one-way trips per day and could consist of rock trucks,[2] water trucks, fuel trucks, Vactor trucks (Super Vac), and/or miscellaneous service trucks.

A maximum export of 30,000 cubic yards of materials and a haul truck carrying capacity of 12 cubic yards was assumed. Based on these assumptions, maintenance is estimated to generate 2,500 haul truck round trips (5,000 one-way haul truck trips). A 28-mile one-way trip distance was assumed for the haul trucks to represent the approximate distance to the approved disposal location at the Miramar Landfill.

The maintenance equipment and vehicle trips used for estimating the representative-project-generated maintenance emissions are shown in Table 7-1.

Table 7-1
Construction Scenario Assumptions

	One-Way Vehicle Trips			Round Trips		
Construction Phase	*Average Daily Worker Trips*	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Average Daily Worker Round Trips*	*Average Daily Vendor Round Trips*	*Total Haul Truck Round Trips*
Tijuana River Valley – Pilot Channel and Smuggler's Gulch	24	10	5,000	12	5	2,500

[1] The analysis assumes a construction start date of November 2017, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant and greenhouse gas emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

[2] Rock trucks would be used to transport excavated rock, vegetation, and sediment material from the channel to the staging area, resulting in an approximate one-way trip distance of 0.5 miles. Nonetheless, the California Emissions Estimator Model default vendor truck one-way trip distance of 7.3 miles was conservatively applied to all potential vendor truck trips.

As shown in Table 7-1, the representative worst-case activity assumes 12 round-trip daily worker trips, 5 round-trip average daily vendor truck trips, and 25 average daily haul truck trips (based on 2,500 trips divided by the length of the representative project, 100 days). Per the City's Traffic Impact Study Manual (July 1998), this minimal increased traffic does not warrant a traffic impact study to be prepared. As stated therein, a traffic impact study may be required if a project does not conform to the community plan and generates 500 daily trips, or if a project does conform to the community plan and generates 1,000 daily trips. Furthermore, this minor increase in traffic would not substantially add to existing roadway traffic volumes and would not result in effects on existing or planned transportation systems because it would largely be associated with off-road areas; therefore, impacts to transportation and circulation would not be significant. The MWMP would also not result in impacts to air traffic patterns or public transit facilities.

Occasionally, maintenance areas may encroach into streets or rights-of-way under jurisdiction of the San Diego Metropolitan Transit System and North County Transit District, California Department of Transportation, and/or City and would require temporary partial or full lane closures and diversion of traffic around these work areas. Each of these agencies has requirements to obtain encroachment and/or traffic control permits prior to commencing work within their respective right-of-way, which typically involve submittal of a traffic control plan and related traffic control documentation. MWMP facilities that would encroach into these agencies' rights-of-way and would be subject to these regulations are identified in Appendix A of the MWMP. Prior to commencing work on these facilities, the City would ensure that all traffic control requirements are met and required permits obtained. Furthermore, the City currently has a 2-year Right of Entry permit from the San Diego Metropolitan Transit System and North County Transit District to conduct routine inspection and maintenance of its water, sewer, and storm water utility infrastructure within railroad rights-of-way so long as certain steps are met prior to starting work (e.g., submittal of a work plan). It is anticipated that this Right of Entry permit would be extended through the life of the MWMP, or separate individual permits would be obtained if the Right of Entry permit expired. Therefore, prior to commencing work, all applicable encroachment and/or traffic control permits would be obtained to reduce potential traffic impacts, including traffic hazards, and to ensure that adequate emergency access is maintained.

Furthermore, minimal parking impacts would result from the proposed MWMP because parking demand would be limited to a small number of maintenance workers who would mostly park off the street. In some cases, maintenance workers would be required to park on street or within parking lots, but this would be limited. Because the proposed MWMP would cause a minimal increase in traffic volume and would not substantially impact existing or planned transportation systems and parking, impacts to transportation, circulation, and parking would be **less than significant**.

CHAPTER 8 ALTERNATIVES

8.1 INTRODUCTION

The purpose of the evaluation of alternatives in an Environmental Impact Report (EIR), as stated in Section 15126.6(c) of the California Environmental Quality Act (CEQA) Guidelines, is to ensure that "the range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects" identified under a proposed project. Pursuant to CEQA Guidelines Section 15126.6, an analysis of alternatives to the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP) is presented in this EIR to provide the public and decision makers with a range of possible alternatives to consider. The CEQA Guidelines state that an EIR must describe a reasonable range of alternatives that would avoid or substantially lessen any significant effects of a project, but needs not consider every conceivable alternative. The CEQA Guidelines further state that "the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly" (CEQA Guidelines, Section 15126.6(b)). Therefore, an EIR must describe a range of reasonable alternatives to a proposed project (or to its location) that could feasibly attain most of the basic objectives of that project. The feasibility of an alternative may be determined based on a variety of factors, including site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and site accessibility and control (CEQA Guidelines, Section 15126.6(f)(1)).

Alternatives in an EIR must be potentially feasible (CEQA Guidelines, Section 15126.6(a)). Agency decision makers ultimately decide what is "actually feasible" (*California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal. App. 4th 957, 981 (*CNPS*)). Under CEQA, "feasible" is defined as capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (CEQA Guidelines Section 15364). The concept of "feasibility" also encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project (*Sierra Club v. County of Napa* (2004) 121 Cal.App.4th 1490, 1506-1509; *CNPS*, *supra*, 177 Cal. App. 4th at p. 1001; *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2008) 43 Cal.4th 1143, 1165, 1166). Moreover, "'feasibility' under CEQA encompasses "desirability" to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, legal, and technological factors" (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417).

An EIR need not evaluate the environmental effects of alternatives in the same level of detail as the proposed project, but must include enough information to allow meaningful evaluation, analysis,

and comparison with the proposed project. The alternatives discussion is intended to focus on alternatives to a project or its location that are capable of avoiding or substantially lessening any significant effects of that project, even if these alternatives would impede, to some degree, the attainment of that project's objectives. (The MWMP's objectives are listed in Chapter 4, Project Description, of this EIR.)

This chapter identifies the MWMP's objectives, describes alternatives, and evaluates the comparative effects of those alternatives relative to the proposed MWMP. As required under Section 15126.6(e) of the CEQA Guidelines, the environmentally superior alternative is identified and included at the end of this chapter.

8.2 FACTORS IN THE SELECTION OF ALTERNATIVES PROJECT OBJECTIVES

An EIR should include a brief description of the rationale for selecting the alternatives to be discussed (CEQA Guidelines Section 15126.6(c)). The following factors were considered in developing the range of alternatives for the MWMP.

8.2.1 AVOID OR REDUCE A SIGNIFICANT IMPACT

An EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment. Therefore, a primary factor in the selection of alternatives must be the ability to reduce or substantially reduce one or more significant impacts that would result from a project. Significant impacts considered in the alternatives selection for the MWMP were the following:

- Air Quality and Odor
- Biological Resources
- Historical, Archaeological, and Tribal Cultural Resources
- Noise
- Solid Waste
- Water Quality

In addition, although no significant impacts were identified in the following issue area, it is also included in the consideration of alternatives because it is integral to the purpose and objectives of the MWMP:

- Hydrology

Direct, indirect, and cumulative impacts should be considered. For the MWMP, changes in the frequency, duration, location, and/or method of waterways maintenance may avoid or reduce impacts. If an alternative would result in a new or greater impact compared to a proposed project, that must also be discussed.

8.2.2 FEASIBILITY

Under CEQA, "feasible" is defined as capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (CEQA Guidelines Section 15364). "Feasibility" also encompasses the question of whether a particular alternative or mitigation measure promotes the underlying goals and objectives of a project (see Section 8.2.3, Project Objectives).

The following issues were considered in the development of alternatives for the MWMP:

- **Economics.** An alternative should not be dismissed merely because it may cost more than a proposed project. However, if the economic impacts of a project are prohibitive, it may be rejected. Economic issues for the MWMP include time and material costs, acquisition of property, and life cycle costs of facilities.
- **Regulatory permitting.** Storm water is a highly regulated area. The cost, timing, and likelihood of obtaining necessary permits were considered in assessing the feasibility of various alternatives.
- **Technology.** If alternative engineering methods or technologies may achieve most of the MWMP objectives, the relative cost, availability, and environmental effectiveness of these technologies should be considered.

8.2.3 PROJECT OBJECTIVES

A feasible alternative must be capable of achieving most of a project's basic objectives. An alternative need not achieve each and every objective to warrant consideration. As stated in the Chapter 4, the MWMP's objectives are as follows:

1. Public safety and flood risk reduction
    - Protect life and property adjacent to, downstream, and upstream of affected channels from flooding and environmental degradation.
2. Responsiveness to reduce flood risk
    - Provide for timely and consistent routine operations and maintenance in the affected channels and associated storm water conveyance infrastructure.

3. Avoid, minimize, and/or mitigate potential effects to environmental resources
    - Avoid, minimize, and/or mitigate significant adverse environmental effects resulting from routine maintenance of storm water facilities.
    - Incorporate and adapt to water quality management strategies intended to protect water quality and address flooding impacts.
4. Proactive and timely approval process
    - Provide project-level analysis upfront to expedite subsequent authorizations for routine and preventive maintenance activities within storm water facilities.
    - Identify a review-and-approval process to include additional storm water facilities and maintenance activities that follow the protocols and requirements of the MWMP.
    - Reduce the need to conduct emergency maintenance during significant storm events by implementing preventive maintenance activities.

8.2.4 REQUIRED ALTERNATIVES

An EIR must include a discussion of the No Project/No Action Alternative. The No Project/No Action Alternative describes what would reasonably be expected to occur if the project were not approved. An EIR must also identify the Environmentally Superior Alternative. If the No Project/No Action Alternative is also the Environmentally Superior Alternative, another "build" alternative must be identified as environmentally superior (CEQA Guidelines Section 15126.6(e)).

8.3 ALTERNATIVES CONSIDERED BUT REJECTED FROM FURTHER CONSIDERATION

CEQA Guidelines Section 15126.6(c) requires an EIR to identify and briefly discuss any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process. In identifying alternatives to be further analyzed for the MWMP, primary consideration was given to alternatives that would reduce significant impacts while feasibly achieving most of the project objectives. Environmental Protocols incorporated as part of the MWMP are assumed to also be a part of each alternative.

8.3.1 OFF-SITE RUNOFF REDUCTION (LOW-IMPACT DEVELOPMENT) ALTERNATIVE

The Off-Site Runoff Reduction (Low-Impact Development) Alternative would involve implementing low-impact development (LID) measures within off-site watershed areas to reduce runoff generation and resulting flows into storm water facilities located within the MWMP program area. LID refers to

systems and practices that use or mimic natural processes that result in the infiltration, evapotranspiration, or use of storm water to reduce runoff entering the storm water system and improve water quality. This alternative would be implemented in areas outside the storm water facilities. In addition, the Off-Site Runoff Reduction Alternative would target LID retrofit measures in applicable existing developed areas and sites with new development or redevelopment projects.

LID features, such as bioretention and biofiltration areas and other best management practices (BMPs) have been implemented in select locations in the City and are required as part of new development. The City's Transportation & Storm Water Department is actively planning for construction of additional LID features through the preparation of *Watershed Master Plans* and in compliance with *Water Quality Improvement Plans*. As LID projects are identified, they would likely be constructed through the City's Capital Improvement Program. These plans are separate from and outside the scope of the MWMP, which is focused on maintenance activities. Regardless, LID features would not alone eliminate the need to perform channel maintenance. Typically, the largest LID features are bioretention basins that are created primarily to improve water quality. Although these features can also reduce runoff volumes and flow rates, they are usually designed for the first flush of a storm, which is typically equivalent to the 2- to 5-year storm events. Therefore, although these features may attenuate low flows, they would not alter the 10-, 50-, or 100-year peak storms. Flood risks typically occur at these higher peak storm events. Flood control designs, such as detention basins, are required to reduce flood risk at these higher-peak storm events. For that reason, LID installation would not have a measurable impact on peak flows for large-storm downstream flooding. Therefore, this alternative would not meet the project objectives to protect life and property during larger storm events. In addition, this alternative would not address the continued loss of storm water capacity due to continued vegetation growth, sedimentation, trash accumulation, and breakdown of facilities. Thus, although LID is an increasingly important part of storm water management and is part of the Transportation & Storm Water Department's holistic strategy, it would not, by itself, accomplish the goals of the proposed MWMP.

8.3.2 LIMITED FREQUENCY MAINTENANCE ALTERNATIVE

Under the Limited Frequency Maintenance Alternative, the frequency of maintenance of any facilities would be limited to one cleaning/maintenance event every 2 years. While the total number of facilities subject to maintenance would not be reduced with this alternative, by requiring a minimum 2-year interval between maintenance events, some interim vegetation growth could potentially reduce impacts to biological and water quality resources.

For the majority of facilities, this alternative would not be significantly different than the proposed MWMP, in that the City's typical maintenance frequency (due to the size of available staff and the number of facilities throughout the City) is greater than once every 2 years. However, for certain

facilities that have a high rate of sediment accumulation and/or vegetation growth and limited flood conveyance capacity, this alternative would limit the City's ability to respond to these reduced facility capacity conditions resulting in increased flood risk to adjacent properties in these areas. Furthermore, there could be additional facilities that may need maintenance more frequently due to changed conditions, including the effects of climate change or human-caused or environmental variables such as rainfall, sedimentation, erosion, and flooding. Therefore, although a limited-frequency alternative is technically feasible and it would reduce potential impacts to biological resources and/or water quality, it would not accomplish the basic MWMP objectives of providing timely and consistent maintenance of facilities, and to reduce flooding.

8.3.3 ALTERNATIVE ENGINEERING DESIGN

Under this alternative, structures (e.g., walls or levees, channel widening, flow reduction/bypass) would be constructed to increase flood conveyance capacity or reduce runoff volumes/water surface elevation without the removal of accumulated vegetation and sediment. The structures would offset the effect of vegetation and sediment by allowing water elevations to increase without spilling out into adjacent developed areas or by reducing flow volumes through the facility. Channel-specific engineering would be undertaken to determine the additional "bank" height, channel width, and/or flow modifications needed.

While this alternative could reduce long-term impacts by reducing the need for future maintenance, the short-term impacts would be substantially increased by construction activity. For example, due to the need for increased walls or levees, long-term aesthetic and visual impacts could occur if walls or levees were 6 feet or taller and views to creeks or scenic resources would be blocked. Additional property acquisition costs and construction costs would delay (if not make infeasible) implementation of this alternative City-wide. Regulatory permitting could also delay implementation, since the area of impact would increase beyond existing facilities. The additional costs, delays, and short-term impacts indicate that this alternative could not feasibly accomplish the basic MWMP objectives. Furthermore, the MWMP is intended to be a maintenance program, not a construction or Capital Improvement Program.

Activities contemplated under this alternative would be planned and constructed by the City through the City's *Water Quality Improvement Plans*, *Watershed Management Plans*, *Watershed Asset Management Plan*, and Capital Improvement Program. The MWMP is focused on maintenance of existing facilities, but additionally, the MWMP includes feedback connections with these plans and programs so that areas of high-frequency maintenance needs or deficient infrastructure identified in the MWMP are referred to the City's other Capital Improvement Program–related projects for further evaluation. Over time, it is expected that implementation of the Capital Improvement

Program would reduce the number facilities that require maintenance and the frequency that those facilities are maintained.

8.3.4 MAINTENANCE OF CONCRETE-LINED FACILITIES ONLY ALTERNATIVE

Under the Maintenance of Concrete-Lined Facilities Only Alternative, earthen-bottom facilities would not be maintained. Activities within concrete-lined channels/ditches, basins, and structures would be identical to those under the proposed MWMP. This alternative was developed to reduce habitat and water quality impacts (from disturbing earthen channels). However, reducing such a broad category of facilities would not achieve basic MWMP objectives to protect life and property and reduce flooding. Alternatives discussed in Section 8.4, below, would more carefully consider avoiding problematic areas to reduce environmental impacts (and associated permitting costs and delays).

8.4 ALTERNATIVES SELECTED FOR FURTHER CONSIDERATION

For each alternative considered in this EIR, this section contains a description of the alternative, the rationale for its inclusion in the range of alternatives, and a discussion of impacts compared to the proposed MWMP. Environmental Protocols incorporated as part of the MWMP are assumed to also be a part of each alternative.

8.4.1 NO PROJECT/NO ACTION ALTERNATIVE (ALTERNATIVE 1)

The No Project/No Action Alternative should discuss the existing conditions of a project area at the time the Notice of Preparation was published, and what would be reasonably expected to occur in the foreseeable future if that project were not approved (CEQA Guidelines 15126.6(e)(2)). This alternative should compare the environmental effects of approving a project versus the impacts of not approving a project.

A No Project/No Action Alternative will usually proceed along one of two lines. If a project is a revision of a plan, policy, or operational program, the "no project" will be the continuation of the existing plan or program into the future. If the project is an identifiable development project, the "no project" alternative considers what would occur if the project is not developed (including any reasonably foreseeable changes to the project area that may be expected to occur without the project). The MWMP more closely resembles the first scenario: the City would not cease all maintenance activities if the MWMP is not adopted. However, after the expiration of the current Master Storm Water System Maintenance Program (2018), all maintenance activities would be developed, permitted, and implemented on a project-by-project basis. Individual maintenance projects would be reviewed under CEQA, and based on their permitting needs, reviewed for compliance with state and federal laws and regulations. The time requirement for permitting of each facility location is approximately 12–24 months of planning and application processing time.

Minor maintenance or small repair activities (which precludes repair, as described in Chapter 4, Project Description) could still occur at facilities that would not affect Environmentally Sensitive Lands (as defined by the City's Land Development Code and as regulated by the City) or result in a regulated impact to resources under the jurisdiction of the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, Regional Water Quality Control Board, or California Coastal Commission. These activities may include maintenance of facilities such as storm water pipes, inlet/outlet structures, ditches, channels, brow ditches, basins, and permanent BMPs. These facilities are most often within the public right-of-way or developed areas. A variety of other activities may also be considered minor maintenance, including trash and debris removal by hand, homeless encampment removal, graffiti removal, vegetation management, non-mechanized sediment removal, erosion control maintenance, and concrete repair (minor damage). Additional maintenance or repair activities would require separate evaluation and approval.

Under the No Project/No Action Alternative, maintenance activities would continue. This could reduce the ability of the City to coordinate activities, which would reduce the opportunity for operational efficiency (both costs and the duration of activities), and to coordinate mitigation. It is possible that, due to the need to review and permit certain maintenance projects individually, the number of maintenance activities that may occur concurrently, or annually, may be less than with the proposed MWMP. Therefore, air quality impacts (which are based on a certain number of activities occurring at any given time) may be reduced. However, the reduction would not be enough to avoid the significant impact related to nitrogen oxides (NOx) emissions. This alternative would not achieve the MWMP objectives to reduce flooding and protect life and property in those watersheds. Although the activities may be spaced out over longer periods of time, other significant impacts associated with biological resources; historical, archaeological, and tribal cultural resources; noise; and solid waste would still occur and would not be noticeably reduced. While potentially reduced maintenance could reduce impacts to hydrology (related to erosion following maintenance) and water quality, the potential for delays in conducting maintenance may also result in increased impacts to hydrology (due to increased flood risk compared with the proposed MWMP) and water quality (due to potential pollutant releases during flooding). Flooding risks increase when the City does not have the ability to maintain channels in an efficient and timely manner. See Table 8-1 for a comparison of the environmental effects of the No Project/No Action Alternative with the proposed MWMP and the other alternatives discussed below.

8.4.2 REDUCED IN-STREAM MAINTENANCE ALTERNATIVE (ALTERNATIVE 2)

Under the Reduced In-Stream Maintenance Alternative (Alternative 2), sediment removal would be entirely conducted from the top-of-bank without use of heavy equipment placed in the channel/ditch or basin. For most facilities, additional access paths along the top of channel banks, for example, would be required. For other facilities, mechanized maintenance would not be feasible

due to a lack of access, and, therefore, maintenance may be limited to vegetation removal or trimming using non-mechanical means, such as hand tools and herbicide application.

This alternative would partially reduce in-stream impacts to wetland habitat, and impacts associated with water quality. However, additional impacts would occur to upland habitats on channel banks and other areas outside of the facility required for access. Due to reduced wetlands habitat removal, water quality impacts could be reduced, but with limited access, removal of contaminated soil, debris, and trash would also be reduced, resulting in increased water quality impacts compared with the proposed MWMP. Hydrology impacts related to the risk of erosion would also be reduced, but impacts related to flood risk would be increased.

Significant impacts associated with air quality; historical, archaeological, and tribal cultural resources; noise; and solid waste would still occur and would not be noticeably reduced. See Table 8-1 for a comparison of the environmental effects of the No Project/No Action Alternative with the proposed MWMP and the other alternatives discussed below.

In many locations, without equipment in the channel/ditch or basin, maintenance of the facility would be limited to non-mechanical vegetation removal; accumulated sediment would not be removed in most locations. This alternative may incur additional operational costs due to the need for additional bank access in certain facility locations, and may potentially increase impacts to riparian, stream buffer, and/or upland habitats (in place of in-stream habitat).

8.4.3 LIMITED SEDIMENT REMOVAL ALTERNATIVE (ALTERNATIVE 3)

Under the Limited Sediment Removal Alternative (Alternative 3), no sediment would be removed from earthen-bottom facilities. Sediment would still be removed from concrete-lined facilities due to the risk of downstream plugs and the potential need for infrastructure repair. The concrete-lined facilities proposed for maintenance under the MWMP were designed to be unvegetated. Maintenance of concrete-lined facilities through the removal of accumulated sediment and vegetation is required according to analysis conducted by multiple flood management agencies, including the U.S. Army Corps of Engineers, to prevent clogging of downstream culverts and other significant reductions in facility capacity that can result in increased flood risk (USACE 1999).

This alternative would partially reduce impacts to solid waste because sediment from earthen-bottom facilities planned for removal and disposal under the proposed MWMP would not be removed. Water quality impacts (e.g., turbidity, accidental spills) and wetland habitat impacts would be reduced, but not avoided, since mechanical vegetation removal would still occur. Also, by excluding the removal of sediment, water quality benefits of the MWMP in terms of removal of trash and contaminants within sediment would not occur. Hydrology impacts would likely be increased, because vegetation removal in

earthen-bottom facilities would still result in a potentially significant increase in erosion, and by limiting the removal of sediment, the potential for flooding would be increased.

Significant impacts associated with air quality; historical, archaeological, and tribal cultural resources; and noise would still occur and would not be noticeably reduced. Alternative 3 would accomplish most of the MWMP objectives; however, by precluding the removal of sediment in earthen-bottom facilities, these facilities would continue to lose flood conveyance capacity, and, therefore, this alternative would not fully achieve the MWMP objectives to reduce flooding and protect life and property in those watersheds. See Table 8-1 for a comparison of the environmental effects of Alternative 3 with the proposed MWMP and the other alternatives discussed herein.

8.4.4 ALTERNATIVE SEDIMENT MANAGEMENT APPROACH (ALTERNATIVE 4)

Under the Alternative Sediment Management Approach (Alternative 4), maintenance would be designed in a manner that leaves strips of sediment/vegetation in each facility, particularly within channels/ditches. Sediment removal activities would continue to be conducted in-channel, so impacts resulting from the presence of heavy equipment in the channel would remain. To leave strips of sediment/vegetation, additional access impacts would likely occur for equipment to be able to access the maintenance areas separated by the strips of avoided sediment/vegetation.

As stated above, the concrete-lined facilities proposed for maintenance under the MWMP were designed to be unvegetated. Maintenance of concrete-lined facilities through the removal of accumulated sediment and vegetation is required according to analysis conducted by multiple flood management agencies, including the U.S. Army Corps of Engineers, to prevent clogging of downstream culverts and other significant reductions in facility capacity that can result in increased flood risk (USACE 1999). City staff have observed vegetation/sediment on concrete-lined channels becoming displaced and being transported downstream during storm events. This type of "carpet-rolling" effect was observed specifically at the Murphy Canyon – Stadium and Murray Reservoir – Cowles Mountain facility groups during normal (i.e., not extreme) storm events, resulting in increased flood risks downstream. Therefore, this alternative sediment management approach would only alter the proposed maintenance activities within earthen-bottom facilities.

Within earthen-bottom facilities, the modification of maintenance to allow for permanent or alternating sediment/vegetation strips may be feasible, but would not be consistent with facility as-built designs. In most cases, it is expected that these sediment/vegetation strips would increase flood risk compared to the proposed project. Also, the strips of vegetation would be subject to potential erosion and therefore may result in adverse downstream effects (e.g., clogging of downstream culverts and/or sedimentation). The intended function of these strips is similar to constructed wetland BMP water quality improvement facilities. In practice, constructed wetland BMPs are not typically designed in existing channels due to regulatory restrictions (water quality

improvement measures are typically required to be built upstream of a discharge to the receiving waters) and hydrology and hydraulic concerns. The hydrology and hydraulic concerns are that channels must accommodate peak flood flows whereas water quality improvement functions typically occur during low-flow conditions. Therefore, typical design would include diversion of low flows to a separate water quality treatment wetland. The attempt to create these functions within facilities by reducing maintenance is not likely to be effective, since large flows would likely erode the strips of sediment and vegetation. This alternative may also incur additional operational costs due to the need for additional bank access in certain facility locations, and may potentially increase impacts to riparian, stream buffer, and/or upland habitats (in place of in-stream habitat).

Therefore, this alternative would have greater impacts to hydrology (i.e., flooding, erosion) and biological resources, while other impacts would remain the same compared to the proposed MWMP. Potential MWMP impacts that would not be reduced or avoided by this alternative are those related to air quality; historical, archaeological, and tribal cultural resources; and noise. Impacts that would be reduced are those related to solid waste, since less vegetation and sediment would be transferred to the City-owned landfill. When known or unknown hazardous materials or contaminated soils are encountered during maintenance activities, they would need to be transported to an acceptable off-site disposal facility that accepts hazardous materials that are not accepted by the City-owned landfill. Impacts to water quality are likely mixed. To the degree that strips of vegetation are an effective filter of pollutants, water quality impacts would be reduced under this alternative. However, if strips of vegetation are dislodged, the uncontrolled release of this sediment and vegetation would result in greater water quality impacts compared with the proposed MWMP.

However, not all of the objectives, such as the protection of life and property or the responsiveness to flood risk, would be met. See Table 8-1 for a comparison of the environmental effects of Alternative 4 with the proposed MWMP and the other alternatives discussed herein.

8.4.5 REDUCED PROJECT ALTERNATIVE (ALTERNATIVE 5)

The Reduced Project Alternative (Alternative 5) would remove selected facilities from the MWMP. The facilities to be removed would be those facility groups that would adversely affect wetlands greater than 0.5 acre in area that have not been previously permitted and mitigated. A 0.5-acre threshold was set for this alternative based on the U.S. Army Corps of Engineer's Nationwide Permit program, which uses the same threshold to avoid impacts that would potentially have more than a minimal effect on aquatic resources (USACE 2017). Under this alternative, facilities that would involve impacting more than 0.5 acres of wetlands not previously permitted or mitigated would need to be addressed in the future through an individual environmental review and permitting process. These facility groups are as follows:

- Los Peñasquitos Canyon Creek – Black Mountain Facility Group

- Tecolote Creek – Genesee Facility Group
- Mission Bay – Mission Bay Drive Facility Group
- Nestor Creek – Nestor Facility Group

This alternative would reduce, but not entirely avoid, potential impacts in all issue areas, due to the avoidance of impacts within these four facility groups. Biological resource impacts would be reduced because less wetland and sensitive vegetation would be removed, and hydrology and water quality impacts would be reduced because there would be no risks of erosion or water quality degradation at these facility locations. However, potential impacts that would increase in severity compared to the proposed MWMP include those related to hydrology and water quality, because this alternative would increase the likelihood of flooding in the areas surrounding the excluded facilities.

In the context of maintenance throughout the City, the Reduced Project Alternative would not result in a substantive reduction of impacts in the areas of solid waste, air quality, or noise due to the relatively similar use of maintenance equipment across the program. Similarly, historical, archaeological, and tribal cultural resources would still be subject to potential impacts to unknown resources throughout the City.

Overall, this alternative would not fully meet the MWMP objective to reduce flooding and protect life and property. See Table 8-1 for a comparison of the environmental effects of Alternative 5 with the proposed MWMP and the other alternatives discussed herein.

8.5 COMPARISON OF ENVIRONMENTAL EFFECTS

Table 8-1 provides a comparison of the environmental effects of the MWMP Alternatives relative to the proposed MWMP. The table identifies the significance of impacts prior to the implementation of feasible mitigation measures. Where the table shows a reduction in impact but not avoidance (reduced to less than significant), the same mitigation or Environmental Protocols would apply to that alternative that are identified for the proposed MWMP.

Table 8-1
Alternatives Impact Comparison

Issue Area	Proposed MWMP	Alternative 1: No Project/No Action	Alternative 2: Reduced In-Stream Maintenance	Alternative 3: Limited Sediment Removal	Alternative 4: Alternative Sediment Management	Alternative 5: Reduced Project
Aesthetics/Visual Effects and Neighborhood Character	LTS	=	+	=	–	–
Air Quality and Odor	S	–	=	=	=	=
Biological Resources	SU	=	+/-	–	+	–
Greenhouse Gas Emissions	LTS	=	=	=	=	=
Health and Safety Hazards	LTS	=	=	=	=	=
Historical/ Archaeological/Tribal Cultural Resources	S	=	=	=	=	=
Hydrology	LTS	+/-	+/-	+	+	+/-
Land Use	S	=	+	=	=	=
Noise	S	=	=	=	=	=
Paleontological Resources	LTS	=	=	=	=	=
Solid Waste	SU	=	=	–	–	=
Water Quality	SU	+/-	+/-	+/-	+/-	+/-

LTS Less than significant impact (no mitigation proposed)
S Potentially significant impact (prior to mitigation)
SU Significant unavoidable (following mitigation)
+ Impact would be greater than the proposed MWMP
– Impact would be less than the proposed MWMP
+/– Some impacts would be reduced, but other impacts would be greater than the MWMP
= No change. The same impact as the Proposed MWMP

8.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

All of the alternatives would reduce one or more potentially significant impacts. The No Project/No Action Alternative (Alternative 1) would result in the least reduction of impacts, since the activities proposed under the MWMP would still occur on a project-by-project basis. The Reduced In-Stream Maintenance (Alternative 2) and Alternative Sediment Management (Alternative 4) would reduce some impacts, but likely would result in greater impacts to either aesthetic/visual resources and neighborhood character, or biological resources due to the need for additional access areas. Comparing the Limited Sediment Removal Alternative (Alternative 3) and Reduced Project Alternative (Alternative 5), Alternative 3 would result in a greater reduction of significant impacts, including biological resources and solid waste. However, hydrology impacts would be increased under Alternative 3 (due to increased risk of erosion in earthen-bottom facilities where vegetation would be removed but sediment would not be removed). Under Alternative 5, impacts to hydrology would be mixed; the facilities excluded from maintenance would have less potential for erosion but increased risk of flooding. Therefore, the Reduced Project Alternative (Alternative 5) is considered the environmentally superior alternative because it would result in the least environmental impacts while avoiding potential increases in hydrology impacts associated with Alternative 3.

Although Alternative 5 would be the environmentally superior alternative, impacts associated with hydrology and water quality would have some increases under this alternative compared to the proposed MWMP. By avoiding maintenance within the identified four facility groups, this alternative would increase the flood risk in areas surrounding these facilities. Life and property would be at risk in these locations during flood events, and the potential for water quality degradation would be increased when flood waters exceed the channel capacity and potentially transport pollutants downstream. Therefore, this alternative would not fully achieve the objectives of the MWMP, which are aimed to reduce flooding and protect life and property.

CHAPTER 9 MANDATORY DISCUSSION AREAS

This section addresses significant environmental impacts that cannot be avoided if the City of San Diego's (City) *Municipal Waterways Maintenance Plan* (MWMP) is implemented. It also addresses significant irreversible environmental changes that would be involved should the MWMP be implemented, and growth-inducing impacts of the MWMP.

9.1 SIGNIFICANT EFFECTS THAT CANNOT BE AVOIDED

Section 15126.2(c) of the California Environmental Quality Act (CEQA) Guidelines requires an Environmental Impact Report (EIR) to identify significant environmental effects that cannot be avoided if a project is implemented (14 CCR 15000 et seq.). As discussed in Chapter 5, Environmental Analysis, of this EIR, implementation of the proposed MWMP would result in significant and unavoidable impacts related to biological resources, solid waste, and water quality.

Biological Resources

Wetlands avoidance and implementation of **MM-BIO-1a**, would reduce the potential for biological resource impacts; however, for MWMP activities where implementation of **MM-BIO-1a** is delayed, implementation of **MM-WQ-1** would further reduce the potential for long-term indirect impacts to biological resources, due to potentially reduced water quality conditions. However, these offsetting water quality benefit features are based on the best available data, which at this time cannot precisely calculate water quality conditions prior to and after maintenance and mitigation due to an extensive set of both site-specific and independent conditions and variables that vary in space and time. Therefore, potential long-term indirect biological resource impacts related to water quality conditions would remain **significant and unavoidable** following implementation of **MM-BIO-1a** and **MM-WQ-1.**

Solid Waste

EP-SW-1 through **EP-SW-8** were proposed to reduce the amount of solid waste that would be taken to landfills as a result of maintenance activities under the MWMP. When implemented, the EPs, including the *Waste Management Plan* (**EP-SW-1**), would help divert a portion of solid waste from being transferred to a landfill. However, due to the uncertainty regarding how much material could feasibly be reused or recycled, it is unknown how much solid waste handled under the MWMP could be diverted. Thus, it is unknown how much **EP-SW-1** through **EP-SW-8** would feasibly reduce the impact by increasing the amount of waste diverted enough to comply with the Transportation & Storm Water Department's 75% waste diversion goal. Therefore, solid waste impacts would remain **significant and unavoidable**.

Water Quality

Wetlands avoidance and implementation of **MM-BIO-1a**, would reduce the potential for long-term water quality impacts; however, for MWMP activities where implementation of **MM-BIO-1a** is delayed, implementation of **MM-WQ-1** would further reduce the potential for long-term water quality impacts. However, these offsetting water quality benefit features are based on the best available data, which at this time cannot precisely calculate water quality conditions prior to and after maintenance and mitigation due to an extensive set of both site-specific and independent conditions and variables that vary in space and time. Therefore, potential long-term water quality impacts would remain **significant and unavoidable** following implementation of **MM-BIO-1a** and **MM-WQ-1.** Table 1-1 in Chapter 1, Executive Summary, summarizes the MWMP's significant environmental impacts and mitigation measures, or environmental protocols, which would or would not reduce impacts to below a level of significance.

9.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES THAT CANNOT BE AVOIDED IF THE PROJECT IS IMPLEMENTED

Pursuant to Section 15126.2(d) of the CEQA Guidelines, an EIR must consider any significant irreversible environmental changes that would be caused by a project should it be implemented. Specifically, the CEQA Guidelines describe significant irreversible environmental changes as follows (14 CCR 15126.2(d)):

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as a highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Determining whether the proposed MWMP may result in significant and irreversible effects requires a determination of whether key resources would be degraded or destroyed in such a way that there would be little possibility of restoring them.

Large Commitment of Nonrenewable Resources

The proposed MWMP would involve maintenance, repair, and protection of existing infrastructure and storm water facilities associated with the City's existing flood control system. The maintenance activities proposed under the MWMP are ongoing activities and would be necessary for the City to maintain its

infrastructure and protect the public from flooding impacts. Implementation of the proposed MWMP would require the use and consumption of nonrenewable resources, such as fossil fuels and maintenance materials, during proposed activities. Fossil fuels in the form of diesel oil and gasoline would be used for equipment and vehicles. Electricity, which requires the burning of fossil fuels, would also be consumed during maintenance activities. Use of these energy resources would be irretrievable and irreversible; however, because the storm water system is already in place, because the repair and maintenance activities would be relatively minor and have minimal impacts, and because these activities are currently ongoing, a large commitment of nonrenewable resources or change in use of nonrenewable resources from existing conditions is not anticipated. The non-recoverable materials that would be used during proposed maintenance activities would be accommodated by existing supplies, and their use would not constitute a large commitment of nonrenewable resources

Irreversible Damage

Maintenance activities that result in loss or permanent degradation of an aspect of the physical environment that is nonrenewable have the most potential to result in irreversible changes. If any proposed maintenance activities were to damage or destroy unknown, unique paleontological or archaeological resources, destruction of these resources would be significant and irreversible. However, the City has determined where the areas of sensitivity are likely to be, and either the proposed maintenance activities would avoid these sensitive areas where resources are known, or the City would apply mitigation measures to avoid impacts to such resources. Furthermore, although there would be no active restoration within the channels where maintenance activities would be performed, earthen-bottom facilities would still remain natural flood channels, and concrete-lined channels would still have hydrological characters of a wetland. No irreversible impacts are anticipated from implementation of the proposed MWMP.

9.3 GROWTH-INDUCING IMPACTS

CEQA requires a discussion of ways a proposed project could be growth-inducing. The CEQA Guidelines identify a project as growth-inducing if it fosters economic or population growth or results in the construction of additional housing, either directly or indirectly, in the surrounding environment (14 CCR 15126.2(e)). New employees from commercial or industrial development and new population from residential development represent direct forms of growth. These direct forms of growth have a secondary effect of expanding the size of local markets and inducing additional economic activity in an area. A project could indirectly induce growth by reducing or removing barriers to growth, or by creating a condition that attracts additional population or new economic activity. However, a project's potential to induce growth does not automatically result in growth. Growth can only happen through capital investment in new economic opportunities by the private or public sector.

The proposed MWMP would focus on the maintenance and repair of existing flood control infrastructure; no expansion or capital improvement of existing facilities is proposed. Project-specific and program-level MWMP maintenance activities would likely be performed by existing City staff, which would not result in new population growth from outside the area. Operation and maintenance activities necessary to provide flood control are already occurring and would continue to be implemented by existing City staff and/or local contractors. Therefore, the proposed MWMP would not directly or indirectly induce growth that would result in physical effects to the environment.

CHAPTER 10 REFERENCES

10.1 EXECUTIVE SUMMARY

City of San Diego. 2018. Biology Guidelines. Adopted January 22, 2018; amended February 1, 2018, by City Council Resolution R-311507. https://www.sandiego.gov/planning/programs/landdevcode/landdevmanual.

10.2 INTRODUCTION

City of San Diego. 2016. *California Environmental Quality Act Significance Determination Thresholds.* July 2016.

10.3 PROJECT DESCRIPTION

CDFW (California Department of Fish and Wildlife). 2017. "Explore CDFW." Accessed October 31, 2017. https://www.wildlife.ca.gov/explore.

City of San Diego. 1984. City of San Diego, California, Council Policy 700-44: Flood Control Measures. Effective March 12, 1984. Accessed July 2018. http://docs.sandiego.gov/councilpolicies/cpd_700-44.pdf.

City of San Diego. 1997. *Multiple Species Conservation Program Subarea Plan*. March 1997. https://www.sandiego.gov/sites/default/files/legacy//planning/programs/mscp/pdf/subareafullversion.pdf.

City of San Diego. 2011. *Final Recirculated Programmatic Environmental Impact Report for the Master Storm Water System Maintenance Program*. http://archive.sandiego.gov/stormwater/pdf/recircpeir.pdf.

City of San Diego. 2012. City of San Diego, California, Council Policy 800-04: Drainage Facilities, as amended. Effective July 20, 2012. Accessed June 2017. http://docs.sandiego.gov/councilpolicies/cpd_800-04.pdf.

City of San Diego. 2015a. *Final El Cuervo del Sur Wetland Habitat Mitigation and Monitoring Plan*. Prepared by URS and Helix Environmental Planning Inc. La Jolla, California: URS and Helix Environmental Planning Inc. February 28, 2014. Updated February 25, 2015.

City of San Diego. 2015b. *Final Los Peñasquitos Canyon Preserve Wetland Enhancement Plan*. Prepared by URS and Helix Environmental Planning Inc. La Jolla, California: URS and Helix Environmental Planning Inc. February 28, 2014. Updated February 25, 2015.

City of San Diego. 2016. *California Environmental Quality Act Significance Determination Thresholds*. July 2016.

City of San Diego. 2017. *Otay Reed Site Wetland Habitat Mitigation and Monitoring Plan*. Prepared by HELIX Environmental Planning Inc. La Mesa, California: HELIX Environmental Planning Inc. December 21, 2017.

City of San Diego. 2018a. *Guidelines for Geotechnical Reports*. Accessed April 5, 2019. https://www.sandiego.gov/sites/default/files/legacy/development-services/pdf/industry/geoguidelines.pdf.

City of San Diego. 2018b. *Storm Water Standards Manual*. October 2018. https://www.sandiego.gov/sites/default/files/storm_water_standards_manual_oct_2018.pdf.

City of San Diego and Caltrans (California Department of Transportation). 2016. *Mission Bay Watershed Management Area Water Quality Improvement Plan*. Prepared by Amec Foster Wheeler Environmental & Infrastructure Inc. February 2016.

County of San Diego. 1998. *Final Multiple Species Conservation Program (MSCP) Plan.* August 1998. https://www.sandiegocounty.gov/content/dam/sdc/pds/mscp/docs/SCMSCP/FinalMSCPProgramPlan.pdf.

RCMG (Regional Channel Maintenance Workgroup). 2008. *Channel Maintenance Programmatic Permitting Guide*. Prepared by EDAW Inc. San Diego: California: EDAW Inc. August 2008.

Rick Engineering. 2016. *2016 Annual Drainage Channel Field Assessment and Maintenance Prioritization Projects*.

Rick Engineering. 2017. *2017 Annual Drainage Channel Field Assessment and Maintenance Prioritization Projects*.

SCCWR (Southern California Coastal Water Research Project). 2010. *Hydromodification Screening Tools Technical Report*.

SDOG (San Diegans for Open Government et al., Petitioners) v. City of San Diego. 2013. Settlement Agreement and Release. San Diego Superior Court Case No. 37-2011-00101571.

SWRCB (State Water Resources Control Board). 2012. "Section I, Findings; C, Activities Not Covered Under the General Permit." In National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, as amended by Order No. 2012-0006-DWQ. Effective July 17, 2012.

USACE (U.S. Army Corps of Engineers, Los Angeles District). 1999. *Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual*. December 1999.

10.4 AESTHETICS/VISUAL EFFECTS AND NEIGHBORHOOD CHARACTER

Caltrans (California Department of Transportation). 2008. *Scenic Highway Guidelines*.

Caltrans. 2017. "Scenic Highway System Lists: List of Eligible and Officially Designated State Scenic Highways [XLSX]." Last updated July 18, 2017. Accessed April 10, 2018. http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html.

City of San Diego. 1995. *Pacific Beach Community Plan and Local Coastal Program Land Use Plan*. Adopted by City Council February 28, 1995.

City of San Diego. 1999. *Tijuana River Valley Local Coastal Program Land Use Plan*.

City of San Diego. 2008. "Urban Design Element." In *City of San Diego General Plan.* March 2008. Accessed April 10, 2018. https://www.sandiego.gov/sites/default/files/legacy//planning/genplan/pdf/generalplan/adoptedudelem.pdf.

City of San Diego. 2009. *Skyline-Paradise Hills Community Plan*. Includes Fifth Amendment to Central Imperial Redevelopment Plan. Adopted by City Council May 21, 2009.

City of San Diego. 2011a. *Rancho Peñasquitos Community Plan*. Adopted by City Council on April 26, 2011.

City of San Diego. 2011b. *Mira Mesa Community Plan*. Adopted by City Council on October 6, 1992, includes amendments through April 26, 2011.

City of San Diego. 2014a. *La Jolla Community Plan and Local Coastal Program Land Use Plan*.

City of San Diego. 2014b. *Otay Mesa Community Plan Update*.

City of San Diego. 2016. *California Environmental Quality Act Significance Determination Thresholds*. July 2016.

City of San Diego. 2017. "Chapter 14: General Regulations, Article 2, Division 4: Landscape Regulations." In San Diego Municipal Code. Accessed April 12, 2018. http://docs.sandiego.gov/municode/MuniCodeChapter14/Ch14Art02Division04.pdf.

City of San Diego. 2018. *Kearny Mesa Community Plan*. Adopted October 6, 1992, last amended January 22, 2018.

County of San Diego. 2018. "Tijuana River Valley Regional Park Brochure." Accessed September 20, 2018. http://www.sdparks.org/content/sdparks/en/park-pages/TJRVRP.html.

FHWA (Federal Highway Administration). 2016. "Guidelines for the Visual Impact Assessment of Highway Projects." Accessed April 10, 2018. https://www.environment.fhwa.dot.gov/guidebook/documents/VIA_Guidelines_for_Highway_Projects.asp.

10.5 AIR QUALITY AND ODOR

CARB (California Air Resources Board). 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October 2000. Accessed November 2017. https://www.arb.ca.gov/diesel/documents/rrpFinal.pdf.

CARB. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005. Accessed November 2017. http://www.arb.ca.gov/ch/landuse.htm.

CARB. 2011. *Recommended Area Designation for the 2010 Federal Sulfur Dioxide Standard*.

CARB. 2014. First Update to the Climate Change Scoping Plan Building on the Framework Pursuant to AB 32 – The California Global Warming Solutions Act of 2006. May 2014. Accessed August 2014. http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.

CARB. 2015. *Glossary of Terms Used in GHG Inventories*. Accessed April 2018. https://www.arb.ca.gov/cc/inventory/faq/ghg_inventory_glossary.htm.

CARB. 2016a. "Overview: Diesel Exhaust and Health." Accessed November 2017. https://www.arb.ca.gov/research/diesel/diesel-health.htm.

CARB. 2016b. "Ambient Air Quality Standards." May 4, 2016. Accessed November 2017. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

CARB. 2017. "iADAM: Air Quality Data Statistics." Accessed August 2017. http://www.arb.ca.gov/adam/topfour/topfour1.php.

CDPH (California Department of Public Health). 2016. *Epidemiologic Summary of Coccidioidomycosis in California, 2016*. https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/CocciEpiSummary2016.pdf.

City of San Diego. 2007. *City of San Diego Final Program Environmental Impact Report for the Draft General Plan.* September 2007. Accessed April 2018. https://www.sandiego.gov/planning/genplan/documents/peir.

City of San Diego. 2016. *California Environmental Quality Act Significance Determination Thresholds*. July 2016.

EPA (U.S. Environmental Protection Agency). 2016a. "Glossary of Climate Change Terms." August 9, 2016. Accessed August 2016. https://www3.epa.gov/climatechange/glossary.html.

EPA. 2016b. "EPA Region 9 Air Quality Maps and Geographic Information." Last updated April 27, 2016. Accessed August 2016. http://www.epa.gov/ region9/air/maps/.

EPA. 2016c. "Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard – Round 3." July 22, 2016. Accessed November 2017. https://www.epa.gov/ sites/production/files/2016-07/documents/ areadesign.pdf.

Nelson, J. 2018. "Coccidioidomycosis Data Requests." Email from J. Nelson (County of San Diego Health & Human Services Agency, Epidemiologist II) to J. Reed (Dudek). April 26, 2018.

NOAA (National Ocean and Atmospheric Administration). 2017. Local Climatological Data Annual Summary with Comparative Data San Diego, California (KSAN).

SDAPCD (San Diego County Air Pollution Control District). 1976. Rules and Regulations. Regulation IV. Prohibitions. Rule 51. Nuisance. November 8, 1976.

SDAPCD. 1997. Rules and Regulations. Regulation IV. Prohibitions. Rule 50. Visible Emissions. Effective August 13, 1997. Accessed June 2017.

SDAPCD. 2005. *Measures to Reduce Particulate Matter in San Diego County.* Accessed April 2018. http://sandiegohealth.org/air/SB656StaffRpt.pdf.

SDAPCD. 2009. Rules and Regulations. Regulation IV. Prohibitions. Rule 55. Fugitive Dust Control. Effective June 24, 2009. Accessed June 2017.

SDAPCD. 2016a. *2008 Eight-Hour Ozone Attainment Plan for San Diego County*. Updated December 2016. http://www.sdapcd.org/content/ dam/sdc/apcd/PDF/Air%20Quality%20Planning/8-Hr-O3%20Attain%20Plan-08%20Std.pdf.

SDAPCD. 2016b. *2016 Revision of the Regional Qir Quality Strategy for San Diego County*. December 2016. Accessed June 2017. http://www.sdapcd.org/content/dam/sdc/apcd/PDF/ Air%20Quality%20Planning/2016%20RAQS.pdf.

SDAPCD. 2017a. *2016 Monitoring Plan.* Accessed April 2018. https://www.sdapcd.org/content/ dam/sdc/apcd/monitoring/2016_Network_Plan.pdf.

SDAPCD. 2017b. "Attainment Status." Accessed October 2017. http://www.sdapcd.org/ content/sdc/apcd/en/air-quality-planning/attainment-status.html.

USGS (United States Geological Survey). 2000. *Operational Guidelines (version 1.0) for Geological Fieldwork in Areas 1 Endemic for Coccidioidomycosis (Valley Fever).*

WRCC (Western Regional Climate Center). 2009. "2008 Local Climate Data for San Diego – Montgomery, California." Accessed April 2018. https://wrcc.dri.edu/Climate/west_lcd_show.php?iyear=2008&sstate=CA&stag=sandiegomont&sloc=San+Diego+-+Montgomery.

10.6 BIOLOGICAL RESOURCES

CDFW (California Department of Fish and Wildlife). 2018. Natural Diversity Database. Special Vascular Plants, Bryophytes, and Lichens List. Quarterly publication. November 2018. https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

City of San Diego. 1997. *Multiple Species Conservation Program Subarea Plan*. March 1997. https://www.sandiego.gov/sites/default/files/legacy//planning/programs/mscp/pdf/subareafullversion.pdf.

City of San Diego. 2005. *City of San Diego Public Tree Protection Policy*. Policy No 900-19. http://docs.sandiego.gov/councilpolicies/cpd_900-19.pdf.

City of San Diego. 2013. *Watershed Asset Management Plan*. *Appendix C Mission Bay Watershed.* Transportation and Storm Water Department – Storm Water Division. July 19, 2013. Task Order #57. DOC ID# CSD-RT-13-URS57-01. https://www.sandiego.gov/sites/default/files/wampappendixc.pdf.

City of San Diego. 2016a. *California Environmental Quality Act Significance Determination Thresholds*. July 2016.

City of San Diego. 2016b. *Landscape Standards*. Amended April 5, 2016, by Resolution No. O-20634. https://www.sandiego.gov/sites/default/files/dsdldc_landscapestandards_2016-04-05.pdf.

City of San Diego. 2018. Biology Guidelines. Adopted January 22, 2018; amended February 1, 2018, by City Council Resolution R-311507. https://www.sandiego.gov/planning/programs/landdevcode/landdevmanual.

EPA and USACE (U.S. Environmental Protection Agency and U.S. Army Corps of Engineers). 2008. Compensatory Mitigation for Losses of Aquatic Resources, Final Rule.

Eskalen, A., R. Stouthamer, S.C. Lynch, P. Rugman-Jones, M. Twizeyimana, A. Gonzalez, and T. Thibault. 2013. "Host Range of Fusarium Dieback and its Ambrosia Beetle (Coleoptera: Scolytinae) Vector in Southern California." *Plant Disease*. In 97:7, 938–951.

Stouthamer, R., P. Rugman-Jones, P.Q. Thu, A. Eskalen, T. Thibault, J. Hulcr, L. Wang, B.H. Jordal, C. Chen, M. Cooperband, C. Lin, N. Kamata, S. Lu, H. Masuya, Z. Mendel, R. Rabaglia, S. Sanguansub, H. Shih, W. Sittichaya, and S. Zong. 2017. "Tracing the Origin of a Cryptic Invader: Phylogeography of the Euwallacea Fornicatus (*Coleoptera: Curculionidae: Scolytinae*) Species Complex." *Agricultural and Forest Entomology*.

USACE (U.S. Army Corps of Engineers). 2015. *Memorandum for the Record: Advance Permittee-Responsible Mitigation Related to City of San Diego Essential Public Projects Within the County of San Diego, California*. October 23.

USACE. 2017. "2017 Nationwide Permits, General Conditions, District Engineer's Decision, Further Information, and Definitions." Accessed May 2019. https://usace.contentdm.oclc.org/utils/getfile/collection/p16021coll7/id/8593.

10.7 GREENHOUSE GAS EMISSIONS

C2ES (Center for Climate and Energy Solutions). 2014. *President Obama's Climate Action Plan: One Year Later*. June 2014. Accessed December 2016. http://www.c2es.org/docUploads/climate-action-plan-one-year-later-7-15-14.pdf.

CalRecycle (California Department of Resources Recycling and Recovery). 2012. *California's New Goal: 75 Percent Recycling.* May 9, 2012. Accessed April 27, 2018. http://www.calrecycle.ca.gov/75Percent/Plan.pdf.

CalRecycle. 2013. Update on AB 341 Legislative Report Statewide Strategies to Achieve the 75 Percent Goal by 2020. Accessed April 2018. http://www.calrecycle.ca.gov/75percent/UpdateOct13.pdf.

CalRecycle. 2015. *AB 341 Report to the Legislature*. August 2015.

CARB (California Air Resources Board). 2008. Preliminary Draft Staff Proposal: Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act. Sacramento, California. October 24, 2008.

CARB. 2011. Recommended Area Designation for the 2010 Federal Sulfur Dioxide Standard.

CARB. 2014. *First Update to the Climate Change Scoping Plan: Building on the Framework*.

CARB. 2015a. *Glossary of Terms Used in GHG Inventories*. Accessed April 2018. https://www.arb.ca.gov/cc/inventory/faq/ghg_inventory_glossary.htm.

CARB. 2015b. *Reducing Short-Lived Climate Pollutants in California*. Accessed April 2018. https://www.arb.ca.gov/cc/shortlived/shortlived-addvideo.htm.

CAT (California Climate Action Team). 2006. *Climate Action Team Report to the Governor Schwarzenegger and the Legislature*. Sacramento, California. March 2006. Accessed November 2017. http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF.

CAT. 2010. *Climate Action Team Report to Governor Schwarzenegger and the California Legislature*. Sacramento, California: CAT. December 2010. Accessed November 2017. http://www.energy.ca.gov/2010publications/CAT-1000-2010-005/CAT-1000-2010-005.PDF.

CAT. 2016. Climate Action Team Reports. Accessed November 2017. http://climatechange.ca.gov/climate_action_team/reports/index.html.

CCCC (California Climate Change Center). 2006. *Our Changing Climate: Assessing the Risks to California*. CEC-500-2006-077. July 2006. Accessed November 2017. http://www.energy.ca.gov/2006publications/CEC-500-2006-077/CEC-500-2006-077.PDF.

CCCC. 2012. *Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California*. July 2012. Accessed November 2017. http://www.energy.ca.gov/2012publications/CEC-500-2012-007/CEC-500-2012-007.pdf.

CEC (California Energy Commission). 2015. *2016: Building Energy Efficiency Standards for Residential and Nonresidential Buildings*. June 2015. Accessed April 27, 2018. http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf.

City of San Diego. 2015a. *City of San Diego General Plan*. Adopted March 10, 2008; amended June 29, 2015. Accessed November 2017. https://www.sandiego.gov/planning/genplan#genplan.

City of San Diego. 2015b. *City of San Diego Climate Action Plan*. Adopted December 2015. https://www.sandiego.gov/sites/default/files/final_july_2016_cap.pdf.

City of San Diego. 2016. *California Environmental Quality Act Significance Determination Thresholds*. July 2016.

CNRA (California Natural Resources Agency). 2014. *Safeguarding California: Reducing Climate Risk An Update to the 2009 California Climate Adaptation Strategy*. July 31, 2014. Accessed November 2017. http://resources.ca.gov/docs/climate/Final_Safeguarding_CA_Plan_July_31_2014.pdf.

CRNA. 2016. *Safeguarding California: Implementing Action Plans*. March 2016. Accessed April 2018. http://resources.ca.gov/docs/climate/safeguarding/Safeguarding%20California-Implementation%20Action%20Plans.pdf.

CNRA. 2017. *Draft Report Safeguarding California Plan: 2017 Update, California's Climate Adaptation Strategy*. May 2017. Accessed April 2018. http://resources.ca.gov/wp-content/uploads/2017/05/DRAFT-Safeguarding-California-Plan-2017-Update.pdf.

CNRA. 2018. *Safeguarding California Plan: 2018 Update, California's Climate Adaptation Strategy*. January 2018. Accessed April 2018. http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf.

EOP (Executive Office of the President). 2013. *The President's Climate Action Plan*. June 2013. Accessed April 27, 2018. https://obamawhitehouse.archives.gov/sites/default/files/image/president27sclimateactionplan.pdf.

EPA (U.S. Environmental Protection Agency). 2016. "Glossary of Climate Change Terms." August 9, 2016. Accessed April 2018. https://www3.epa.gov/climatechange/glossary.html.

EPA. 2017a. "Climate Change." Last updated January 19, 2017. https://19january2017snapshot.epa.gov/climate-change-science/causes-climate-change_.html.

EPA. 2017b. *Carbon Pollution Standards for Cars and Light Trucks to Remain Unchanged Through 2025*. January 13. Accessed November 2017. https://www.epa.gov/newsreleases/carbon-pollution-standards-cars-and-light-trucks-remain-unchanged-through-2025.

EPA. 2018. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2016* EPA 430-R-1B-003. Washington, D.C.: EPA. April 12, 2018. Accessed August 2018. https://www.epa.gov/ sites/production/files/2018-01/documents/2018_complete_report.pdf.

EPA and NHTSA (National Highway Traffic Safety Administration). 2016. "Medium- and Heavy-Duty Fuel Efficiency Standards." Accessed November 2017. https://www.epa.gov/newsreleases/epa-and-dot-finalize-greenhouse-gas-and-fuel-efficiency-standards-heavy-duty-trucks-0.

IPCC (Intergovernmental Panel on Climate Change). 1995. *Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report*.

IPCC. 2007. *IPCC Fourth Assessment Synthesis of Scientific-Technical Information Relevant to Interpreting Article 2 of the U.N. Framework Convention on Climate Change*.

IPCC. 2013. *Climate Change 2013: The Physical Science Basis*. *Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Edited by T.F. Stocker, D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex, and P.M. Midgley. Cambridge, UK, and New York, New York: Cambridge University Press. http://www.ipcc.ch/report/ar5/wg1.

IPCC. 2014. *Summary for Policymakers*. In *Climate Change 2014 Synthesis Report: A Report of the Intergovernmental Panel on Climate Change*. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Accessed December 2016. http://www.ipcc.ch/report/ar5/syr/.

SANDAG (San Diego Association of Governments). 2015. *San Diego Forward: The Regional Plan.* October 2015. https://sdforward.com/pdfs/Final_PDFs/The_Plan_combined.pdf.

U.S. State Department. 2015. *Fact Sheet: U.S. Reports its 2025 Emissions Target to the UNFCCC*. Accessed April 2018. https://obamawhitehouse.archives.gov/the-press-office/2015/03/31/fact-sheet-us-reports-its-2025-emissions-target-unfccc.

10.8 HEALTH AND SAFETY/HAZARDS

California Department of Conservation. 2018. "California Important Farmland Finder." Accessed August 2018. https://maps.conservation.ca.gov/DLRP/CIFF/.

CalOES (California Office of Emergency Services). 2011. "California Accidental Release Prevention Program." California Office of Emergency Services, For Governments & Tribal. http://www.caloes.ca.gov/for-governments-tribal/response/california-accidental-release-prevention.

City of San Diego. 2009. Very High Fire Hazard Severity Zones San Diego [map]. March 16, 2009. https://www.sandiego.gov/sites/default/files/legacy/fire/pdf/maps/fhsz_citymap.pdf.

City of San Diego. 2015. *City of San Diego General Plan*. Adopted March 10, 2008; amended June 29, 2015. https://www.sandiego.gov/planning/genplan#genplan.

City of San Diego. 2016. *California Environmental Quality Act Significance Determination Thresholds*. July 2016.

County of San Diego. 2017. *Multi-Jurisdictional Hazard Mitigation Plan*, Section 5.16, City of San Diego. Office of Emergency Services. https://www.sandiegocounty.gov/oes/emergency_management/oes_jl_mitplan.html.

EPA (U.S. Environmental Protection Agency). 2012. "Superfund CERCLA Overview." U.S. Environmental Protection Agency, Superfund, Laws, Policy and Guidance. Last updated December 12, 2012. Accessed November 15, 2017. http://www.epa.gov/superfund/policy/cercla.htm.

EPA. 2013. "History of RCRA." U.S. Environmental Protection Agency, Wastes, Laws & Regulations. Last updated November 1, 2013. Accessed November 15, 2017. http://www.epa.gov/osw/laws-regs/rcrahistory.htm.

EPA. 2015. "Emergency Planning and Community Right-to-Know Act (EPCRA)." U.S. Environmental Protection Agency. Accessed May 19, 2015. http://www2.epa.gov/epcra.

EPA. 2019. "Defining Hazardous Waste: Listed, Characteristic and Mixed Radiological Wastes." Accessed May 28, 2019. https://www.epa.gov/hw/defining-hazardous-waste-listed-characteristic-and-mixed-radiological-wastes.

Governor's Office of Emergency Services. 2006. *California Emergency Services Act, California Disaster Assistance Act, Emergency Compacts, and California Disaster and Civil Defense Master Mutual Aid Agreement*. Includes statutory changes as of January 2006. Accessed November 15, 2017. http://hazardmitigation.calema.ca.gov/docs/ESA-all8-06-final.pdf.

10.9 HISTORICAL, ARCHAEOLOGICAL, AND TRIBAL CULTURAL RESOURCES

Affinis. 2011. *Archaeological Resources Analysis for the Master Storm Water System Maintenance Program, San Diego, California*. Report on file at the South Coastal Information Center.

Basgall, M.E., and M. Hall. 1990. "Adaptive Variation in the North-Central Mojave Desert." Paper presented at the 55th Annual Meeting of the Society for American Archaeology, Las Vegas, Nevada.

Basgall, M.E., and M. Hall. 1993. *Adaptive Variation in the North-Central Mojave Desert*. Paper Presented at the 55th Annual Meeting of the Society for American Archaeology, Las Vegas.

Basgall, M.E., L. Johnson, and M.J. Hale. 2002. "An Evaluation of Four Archaeological Sites in the Lead Mountain Training Area, Marine Corps Air Ground Combat Center, Twentynine Palms, California." Submitted to U.S. Army Corps of Engineers, Fort Worth, Texas.

Bean, L.J., and F.C. Shipek. 1978. "Luiseño." In *Handbook of North American Indians*, Vol. 8, California, edited by R.F. Heizer, 550–563. Washington, D.C.: Smithsonian Institution.

Boscana, G. 1846. "Chinigchinich: A Historical Account of the Origin, Customs, and Traditions of the Indians at the Missionary Establishment of St. Juan Capistrano, Alta California." In *Life in California*, edited by A. Robinson, 227–341. New York, New York: Wiley & Putnam.

Byrd, B.F., and S.N. Reddy. 2002. "Late Holocene Adaptations along the Northern San Diego Coastline: New Perspectives on Old Paradigms." In *Cultural Complexity on the California Coast: Late Holocene Archaeological and Environmental Records*, edited by J.M. Erlandson and T.L. Jones, 41–62. Los Angeles, California: University of California–Los Angeles Press.

City of San Diego. 2001. Historical Resources Guidelines*.* Adopted September 1999; amended April 2001. https://www.sandiego.gov/sites/default/files/legacy/development-services/industry/pdf/ldmhistorical.pdf.

City of San Diego. 2007. *City of San Diego Final Program Environmental Impact Report for the Draft General Plan.* September 2007. Accessed April 2018. https://www.sandiego.gov/planning/genplan/documents/peir.

City of San Diego. 2015a. *City of San Diego General Plan*. Adopted March 10, 2008; amended June 29, 2015. Accessed 2018. https://www.sandiego.gov/sites/default/files/legacy//planning/genplan/pdf/generalplaN/Adoptedtoc.pdf.

City of San Diego. 2015b. *Whitebook – Standard Specification for Public Works Construction.* https://www.sandiego.gov/sites/default/files/the_whitebook_2018_edition_effective_january_1_2019.pdf.

City of San Diego. 2016. *California Environmental Quality Act Significance Determination Thresholds.* July 2016.

County of San Diego. 2007. Ordinance No. 9890 (N/S). County of San Diego Board of Supervisors. San Diego, California.

CSP (California State Parks). 2009. "Preservation Matters." *The Newsletter of the California Office of Historic Preservation* 2(3): 3–21.

Davis, E.L. 1978. *The Ancient Californians: Rancholabrean Hunters of the Mojave Lakes Country*. Los Angeles, California: Natural History Museum of Los Angeles County.

Fages, P. 1937. *A Historical, Political, and Natural Description of California (1775)*. Translated by Herbert Ingram Priestly. Berkeley, California: University of California Press.

Gallegos, D.R. 1987. "San Dieguito-La Jolla: Chronology and Controversy." *San Diego County Archaeological Society*, Research Paper No. 1.

Gallegos, D., and C. Kyle. 1988. *Five Thousand Years of Maritime Subsistence at Ballast Point Prehistoric Site SDI-48 (W-164), San Diego, California*. San Diego, California: WESTEC Services.

Geiger, M., and C.W. Meighan. 1976. *As The Padres Saw Them: California Indian Life and Customs as Reported by the Franciscan Missionaries, 1813–1815.* Santa Barbara, California: Santa Barbara Mission Archive Library.

Golla, V. 2007. "Linguistic Prehistory." In *California Prehistory: Colonization, Culture, and Complexity*, edited by T.L. Jones and K.A. Klar, 71–82. New York, New York: Altamira Press.

Griset, S. 1996. *Southern California Brown Ware*. Unpublished PhD dissertation; University of California, Riverside.

Hale, M.J. 2001. *Technological Organization of the Millingstone Pattern in Southern California*. Master's thesis; California State University, Sacramento.

Hale, M.J. 2009. *San Diego and Santa Barbara: Socioeconomic Divergence in Southern California*. PhD dissertation; University of California, Davis.

Harrington, J.P. 1934. "A New Original Version of Boscana's Historical Account of the San Juan Capistrano Indians of Southern California." *Smithsonian Miscellaneous Collections* 92(4).

Hector, S.M. 1984. *Late Prehistoric Hunter-Gatherer Activities in Southern San Diego County*. PhD dissertation; University of California, Los Angeles.

Hector, S.M. 2007. *Archaeological Investigations at University House Meeting Center and Chancellor Residence, CA-SDI-4669 (SDM-W-12), University of California at San Diego, La Jolla, California.* ASM Affiliates.

Johnson, J.R., and J.G. Lorenz. 2006. "Genetics, Linguistics, and Prehistoric Migrations: An Analysis of California Indian Mitochondrial DNA Lineages." *Journal of California and Great Basin Anthropology* 26:33–64.

Kroeber, A. 1925. *Handbook of the Indians of California*. Washington D.C.: Smithsonian Institution.

Laylander, D. 1985. "Some Linguistic Approaches to Southern California's Prehistory." *San Diego State University Cultural Resource Management Center Casual Papers* 2(1): 14–58.

Laylander, D. 2000. *Early Ethnography of the Californias, 1533–1825*. Salinas, California: Coyote Press Archives of California Prehistory.

Laylander, D. 2010. "Linguistic Prehistory." *Research Issues in San Diego Prehistory*. Accessed August 31, 2012. http://www.sandiegoarchaeology.org/Laylander/Issues /index.htm.

Lightfoot, K.J. 2005. *Indians, Missionaries, and Merchants*. Berkeley, California: University of California Press.

Luomala, K. 1978. "Tipai and Ipai." In *California*, edited by Robert F. Heizer, 592–609. Handbook of the North American Indians, Vol. 8, William C. Sturtevant, general editor. Washington, D.C.: Smithsonian Institution.

Meighan, C.W. 1959. "California Cultures and the Concept of an Archaic Stage." *American Antiquity* 24:289–305.

Office of Historic Preservation. 1995. "Instructions for Recording Historical Resources." California State Parks, Office of Historic Preservation. March 1995. http://ohp.parks.ca.gov/pages/1054/files/manual95.pdf.

Owen, R.C. 1965. "The Patrilineal Band: A Linguistically and Culturally Hybrid Social Unit." *American Anthropologist* 67:675–690.

Pigniolo, A.R. 2004. "Points, Patterns, and People: Distribution of the Desert Side-Notched Point in San Diego." *Proceedings of the Society for California Archaeology* 14:27–39.

Pigniolo, A.R. 2005. "Subsistence, Settlement, and Environmental Change at San Diego Bay." *Proceedings of the Society for California Archaeology* 18:255–259.

Preston, W.L. 2002. "Portents of Plague from California's Protohistoric Period." *Ethnohistory* 49:69–121.

Rogers, M.J. 1929. "The Stone Art of the San Dieguito Plateau." *American Anthropologist* 31:454–467.

Rogers, M.J. 1945. "An Outline of Yuman Prehistory." *Southwestern Journal of Anthropology* 1:167–198.

Shipek, F.C. 1982. "Kumeyaay Socio-Political Structure." *Journal of California and Great Basin Anthropology* 4:296–303.

Shipek, F.C. 1985. "Kuuchamaa: The Kumeyaay Sacred Mountain." *Journal of California and Great Basin Anthropology* 7(1): 67–74.

Spier, L. 1923. "Southern Diegueño Customs." *University of California Publications in American Archaeology and Ethnology* 20:295–358.

True, D.L. 1966. "Archaeological Differentiation of Shoshonean and Yuman Speaking Groups in Southern California." PhD dissertation; University of California, Los Angeles.

True, D.L. 1980. "The Pauma Complex in Northern San Diego County: 1978." *Journal of New World Archaeology* 3(4): 1–39.

Wallace, W.J. 1955. "A Suggested Chronology for Southern California Coastal Archaeology." *Southwestern Journal of Anthropology* 11:214–230.

Warren, C.N. 1964. "Cultural Change and Continuity on the San Diego Coast." PhD dissertation; University of California, Los Angeles.

Warren, C.N. 1968. "Cultural Tradition and Ecological Adaptation on the Southern California Coast." In *Archaic Prehistory in the Western United States*, edited by C. Irwin-Williams, 1–14. Portales, New Mexico: Eastern New Mexico University Contributions in Anthropology.

Warren, C.N., G. Siegler, and F. Dittmer. 2004. "Paleoindian and Early Archaic Periods." In *Prehistoric and Historic Archaeology of Metropolitan San Diego: A Historic Properties Background Study*. Prepared for the Metropolitan Wastewater Department, City of San Diego. Encinitas, California: ASM Affiliates.

Wilken, M.A. 2012. "An Ethnobotany of Baja California's Kumeyaay Indians." Master's thesis; San Diego State University.

10.10 HYDROLOGY

California Water Boards. 2018. "Water Quality Improvement Plans." Page last updated June 27, 2018. https://www.waterboards.ca.gov/sandiego/water_issues/programs/stormwater/wqip.html.

City of San Diego. 2016. *California Environmental Quality Act, Significance Determination Thresholds*. July 2016.

City of San Diego. 2017. *Drainage Design Manual*. January 2017.

City of San Diego. 2018a. "Mapping and Geographic Information." Accessed August 22, 2018. https://www.sandiego.gov/planning/programs/mapsua/map.

City of San Diego. 2018b. "Population." Accessed August 23, 2018. https://www.sandiego.gov/economic-development/sandiego/population.

FEMA (Federal Emergency Management Agency). 2018. "FEMA Flood Map Service Center: Search by Address." Accessed April 14, 2018. https://msc.fema.gov/portal/search.

Project Clean Water. 2018. "A Water Quality Resource for the San Diego Region." Accessed April 15, 2018. http://www.projectcleanwater.org/.

Responsible Agencies Los Peñasquitos Watershed Management Area. 2015. *Los Peñasquitos Watershed Management Area Water Quality Improvement Plan*. Accessed April 13, 2018. http://www.projectcleanwater.org/download/san-dieguito-sdr-water-quality-improvement-plan-wqip/?wpdmdl=5459&ind=1516060150215.

Responsible Agencies Mission Bay Watershed Management Area. 2016. *Mission Bay Watershed Management Area Water Quality Improvement Plan*. Accessed April 13, 2018. http://www.projectcleanwater.org/download/mission-bay-la-jolla-msb-water-quality-improvement-plan-wqip/?wpdmdl=5461&ind=1516061303041.

Responsible Agencies San Diego Bay Watershed Management Area. 2016. *San Diego Bay Watershed Management Area Water Quality Improvement Plan*. Accessed April 13, 2018. file:///C:/Users/prussell/Downloads/San%20Diego%20Bay%20WQIP%20-%20Final%20Main%20Document_Revised%20February%202016.pdf.

Responsible Agencies San Diego River Watershed Management Area. 2016. *San Diego River Watershed Management Area Water Quality Improvement Plan*. Accessed April 13, 2018. http://www.projectcleanwater.org/download/san-diego-river-sdr-water-quality-improvement-plan-wqip/?wpdmdl=5470&ind=1516072870322.

Responsible Agencies San Dieguito River Watershed Management Area. 2015. *San Dieguito River Watershed Management Area Water Quality Improvement Plan*. Accessed April 13, 2018. http://www.projectcleanwater.org/download/san-dieguito-sdg-water-quality-improvement-plan-wqip/?wpdmdl=5445&ind=1516056518450.

Responsible Agencies Tijuana River Watershed Management Area. 2016. *Tijuana River Watershed Management Area Water Quality Improvement Plan*. Accessed April 13, 2018. https://www.waterboards.ca.gov/sandiego/water_issues/programs/stormwater/docs/wqip/tijuana_river/2016-0310_ACCEPTED_TJRWMA_WQIP.pdf.

RWQCB (Regional Water Quality Control Board, San Diego Region). 2003. Order 97-03, Waste Discharge and Water Recycling Requirements for the City of San Diego, North City Water Reclamation Plant, San Diego County.

RWQCB. 2013. Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100. National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges Draining from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds Within the San Diego Region.

RWQCB. 2016a. *Water Quality Control Plan for the San Diego Basin*. Originally published in 1994, with amendments effective through May 17, 2016. Accessed April 15, 2018. https://www.waterboards.ca.gov/rwqcb9/water_issues/programs/basin_plan/.

RWQCB. 2016b. Order 90-16, Waste Discharge Requirements for the City of San Diego, San Pasqual Reclamation Facility, County of San Diego.

Western Region Climate Center. 2018. San Diego Lindbergh Fld, California (047740). Accessed August 23, 2018. https://wrcc.dri.edu/.

USGS (U.S. Geological Survey). 2017. "Hydrologic Unit Maps." Accessed April 10, 2018. https://water.usgs.gov/GIS/huc.html.

10.11 LAND USE

City of San Diego. 1987. *Peninsula Community Plan and Local Coastal Program Land Use Plan*. July 14, 1987. https://www.sandiego.gov/sites/default/files/legacy//planning/community/profiles/peninsula/pdf/peninsulacp082312.pdf.

City of San Diego. 1993. Famosa Slough Enhancement Plan. Prepared by the City of San Diego and State Coastal Conservancy. November 1993.

City of San Diego. 1997. *Multiple Species Conservation Program Subarea Plan*. March 1997. https://www.sandiego.gov/sites/default/files/legacy//planning/programs/mscp/pdf/subareafullversion.pdf.

City of San Diego. 2002. *Mission Bay Park Master Plan Update*. Adopted August 2, 1994; last amended July 9, 2002. https://www.sandiego.gov/sites/default/files/legacy/planning/programs/parkplanning/pdf/mbpmasterplanfv.pdf.

City of San Diego. 2004a. *Uptown Community Plan*. Adopted February 2, 1988; last amended January 2004. https://www.sandiego.gov/sites/default/files/legacy//planning/community/profiles/pdf/cp/cputfullversion.pdf.

City of San Diego. 2004b. *Balboa Park Master Plan*. Adopted July 25, 1989; last amended September 21, 2004. https://www.sandiego.gov/sites/default/files/bpmasterplan_0.pdf.

City of San Diego. 2005a. *College Area Community Plan*. Approved January 12, 1989; last updated September 2005. https://www.sandiego.gov/sites/default/files/legacy//planning/community/profiles/collegearea/pdf/cacpfullversion.pdf.

City of San Diego. 2005b. *Pacific Beach Community Plan & Local Coastal Program Land Use Plan*. Adopted February 28, 1995; last amended February 2005. https://www.sandiego.gov/sites/default/files/legacy//planning/community/profiles/pdf/cp/cppbfullversion.pdf.

City of San Diego. 2005c. *San Ysidro Community Plan*. Adopted September 18, 1990; last amended November 2005. https://www.sandiego.gov/sites/default/files/legacy/planning/community/profiles/pdf/cp/cpsyfull.pdf.

City of San Diego. 2006. *Skyline–Paradise Hills Community Plan*. Adopted June 30, 1987; last amended May 2006. https://www.sandiego.gov/sites/default/files/legacy//planning/community/profiles/skylineparadisehills/pdf/sphccfv.pdf.

City of San Diego. 2007a. *Rancho Bernardo Community Plan*. Approved February 2, 1978; last amended February 2007. https://www.sandiego.gov/sites/default/files/legacy//planning/community/profiles/ranchobernardo/pdf/rbcpfullversion.pdf.

City of San Diego. 2007b. *Tijuana River Valley Local Coastal Program Land Use Plan*. Adopted December 8, 1976; last amended March 2007. https://www.sandiego.gov/sites/default/files/trvprint.pdf.

City of San Diego. 2011a. *Clairemont Mesa Community Plan*. City of San Diego Planning Department. Adopted April 27, 1989; amended April 26, 2011. https://www.sandiego.gov/sites/default/files/legacy//planning/community/profiles/clairemontmesa/pdf/clairemontmesa042611c.pdf.

City of San Diego. 2011b. *Kearny Mesa Community Plan*. Adopted October 6, 1992; last amended April 26, 2011. https://www.sandiego.gov/sites/default/files/kearny_mesa_cp_8-31-2017.pdf.

City of San Diego. 2011c. *Mira Mesa Community Plan and Local Coastal Program Land Use Plan*. Adopted October 6, 1992; last amended April 2011. https://www.sandiego.gov/sites/default/files/miramesa042611c.pdf.

City of San Diego. 2011d. *Rancho Peñasquitos Community Plan*. Adopted March 30, 1993; last amended April 2011. https://www.sandiego.gov/sites/default/files/ranchopenasquitos042611c.pdf.

City of San Diego. 2013. *San Diego River Park Master Plan*. Adopted April 18, 2013. https://www.sandiego.gov/sites/default/files/sdrp_master_plan_full.pdf.

City of San Diego. 2014a. *Otay Mesa Community Plan Update*. March 11, 2014. https://www.sandiego.gov/sites/default/files/otay_mesa_cmmty_plan_update_final-central_village_cpa.pdf.

City of San Diego. 2014b. *Torrey Pines Community Plan*. Adopted March 6, 1975; last amended October 2014. https://www.sandiego.gov/sites/default/files/legacy//planning/community/profiles/torreypines/pdf/torrey_pines_cp_102314.pdf.

City of San Diego. 2014c. *La Jolla Community Plan and Local Coastal Program Land Use Plan*. Adopted November 4, 2003; last updated June 12, 2014. https://www.sandiego.gov/sites/default/files/lajollacommunityplanaug2014.pdf.

City of San Diego. 2015a. *City of San Diego General Plan*. Adopted March 10, 2008; amended June 29, 2015. https://www.sandiego.gov/planning/genplan#genplan.

City of San Diego. 2015b. *Encanto Neighborhoods Community Plan*. November 16, 2015. https://www.sandiego.gov/sites/default/files/encanto_community_plan-revised_lu_maps-reduced_6-20-16.pdf.

City of San Diego. 2015c. *Mid-City Communities Plan*. Adopted August 4, 1998; last amended September 2015. https://www.sandiego.gov/sites/default/files/legacy//planning/community/profiles/kensington-talmadge/pdf/MidCity.pdf.

City of San Diego. 2015d. *Navajo Community Plan*. Prepared by the Navajo Community Planners and the City of San Diego Planning Department. Adopted December 7, 1982; last amended June 9, 2015. https://www.sandiego.gov/sites/default/files/2015_navajo_community_plan.pdf.

City of San Diego. 2015e. *Southeastern San Diego Community Plan*. October 2015. https://www.sandiego.gov/sites/default/files/sesd_community_plan_3.pdf.

City of San Diego. 2016a. *Otay Mesa–Nestor Community Plan*. Adopted May 6, 1997; last amended February 2016. https://www.sandiego.gov/sites/default/files/omnfull.pdf.

City of San Diego. 2016b. *California Environmental Quality Act Significance Determination Thresholds*. July 2016.

City of San Diego. 2018a. Biology Guidelines. Adopted January 22, 2018; amended February 1, 2018, by City Council Resolution R-311507. https://www.sandiego.gov/planning/programs/landdevcode/landdevmanual.

City of San Diego. 2018b. Land Development Code, Environmentally Sensitive Lands Regulations. Effective December 9, 1997, last amended February 9, 2018. https://docs.sandiego.gov/municode/MuniCodeChapter14/Ch14Art03Division01.pdf.

City of San Diego. 2019a. *Mission Valley Community Plan Update*. Adopted September 2019.

City of San Diego. 2019b. *Mission Trails Regional Park Master Plan Update/Natural Resources Management Plan*. Adopted May 22, 2019, by City Council Resolution R-312488. https://www.sandiego.gov/sites/default/files/mtrp_mpu_aug2019_web.pdf; https://www.sandiego.gov/sites/default/files/nrmp_mtrp_020819.pdf.

City of San Diego and County of San Diego. 1998. *Los Peñasquitos Canyon Preserve Master Plan*. 1998. https://www.sandiego.gov/sites/default/files/legacy/park-and-recreation/pdf/parkdesign/lospenasquitoscanyonpreservemasterplan.pdf.

County of San Diego. 1998. *Final Multiple Species Conservation Program (MSCP) Plan.* August 1998. https://www.sandiegocounty.gov/content/dam/sdc/pds/mscp/docs/SCMSCP/FinalMSCPProgramPlan.pdf.

MCAS (Marine Corps Air Station) Miramar. 2018. *Joint Integrated Natural Resources Management Plan for Marine Corps Air Station Miramar, California*. https://www.pendleton.marines.mil/Portals/98/Docs/Environmental/Natural%20Resources/Integrated_Natural_Resources_Management_Plan_2018.pdf.

10.12 NOISE

Caltrans (California Department of Transportation). 2004. *Transportation- and Construction-Induced Vibration Guidance Manual*. Sacramento, California: Caltrans Noise, Vibration, and Hazardous Waste Management Office. Contract No. 43A0049, Task Order No. 18. June 2004.

Caltrans. 2007. *Chapter 12, Noise*. Accessed April 24, 2015. http://www.dot.ca.gov/ser/vol1/sec3/physical/ch12noise/chap12noise.htm.

Caltrans. 2009. *Technical Noise Supplement*. Caltrans, Division of Environmental Analysis. November 2009.

City of San Diego. 2010. *Article 9.5: Noise Abatement and Control*. Section 59.5.0401. Accessed April 23, 2015. http://docs.sandiego.gov/municode/MuniCodeChapter05/Ch05Art9.5Division04.pdf.

City of San Diego. 2016. *California Environmental Quality Act Significance Determination Thresholds.* July 2016.

City of San Diego. 2017. *City of San Diego Scoping Letter for the MWMP*.

FHWA (Federal Highway Administration). 2008. *Federal Highway Administration's Roadway Construction Noise Model*.

FTA (Federal Transit Administration), Office of Planning and Environment. 2006. FTA-VA-90-1003-06. Transit Noise and Vibration Impact Assessment. (Prepared under contract by Harris, Miller, Miller and Hanson). May 2006. Burlington, MA.

10.13 PALEONTOLOGICAL RESOURCES

Abbott, P.L. 1999. The Rise and Fall of San Diego: 150 Million Years of History Recorded in Sedimentary Rocks. San Diego, California: Sunbelt Publications.

Arnold, R. 1906. "The Tertiary and Quaternary pectens of California." *U.S. Geol. Survey Prof. Paper* 47, 264 p.

City of San Diego. 2002. City of San Diego Paleontology Guidelines. December 1996, revised July 2002.

City of San Diego. 2016. *California Environmental Quality Act Significance Determination Thresholds.* July 2016.

City of San Diego. 2018. San Diego Municipal Code, Land Development Code Section 142.0151. Paleontological Resources Requirements for Grading Activities. March 22, 2018.

County of San Diego. 2009. *Guidelines for Determining Significance, Paleontological Resources*. Department of Planning and Land Use, Department of Public Works. March 19, Modified January 15, 2009.

Deméré, T.A. 1981. A Newly Recognized Late Pleistocene Marine Fauna from the City of San Diego, San Diego County, California. In, P.L. Abbott and S. O'Dunn (eds.), *Geologic Investigations of the San Diego Coastal Plain*. San Diego Association of Geologists, Fieldtrip Guidebook, pp. 1–10.

Deméré, T.A. 1983. "The Neogene San Diego Basin: A Review of the Marine Pliocene San Diego Formation." In D.K. Larue and R.J. Steel (eds.), *Cenozoic Marine Sedimentation, Pacific Margin, U.S.A*. Society of Economic Paleontologists and Mineralogists, Pacific Section 28: 187–195.

Deméré, T.A., and S.L. Walsh. 1993. *Paleontological Resources, County of San Diego*. Prepared for the San Diego Planning Commission. Revised April 7, 2003.

GEI (GEI Consultants Inc.). 2017. Geologic Formations of Western San Diego County.

Geolex. 2017. "National Geological Map Database, Geolex Search." Accessed June 6, 2017. https://ngmdb.usgs.gov/Geolex/search.

Hertlein, L.G., and U.S. Grant, IV. 1939. "Geology and Oil Possibilities of Southwestern San Diego County." *California Journal of Mines and Geology* 35:57–78.

Kennedy, G.L. 1973. "A Marine Invertebrate Faunule from the Lindavista Formation, San Diego, California." *Transactions of the San Diego Society of Natural History*, 17(10): 119–128, figs 1–3.

Kennedy, M.P. 1975. "Geology of the San Diego Metropolitan Area, California. Section A Western San Diego Metropolitan Area." *California Division of Mines and Geology, Bull*. 200: 9–39.

Kennedy, M.P., and G.L. Peterson. 1975. "Geology of the San Diego Metropolitan Area, California. Section B – Eastern San Diego Metropolitan Area." *California Division of Mines and Geology, Bull*. 200: 42–56.

Kennedy, M.P., and G.W. Moore. 1971. "Stratigraphic Relations of Upper Cretaceous and Eocene Formations, San Diego Coastal Area, California." *American Association of Petroleum Geologists, Bulletin* 55: 709–722.

Kennedy, M.P., and S.S. Tan. 2007. Geologic Map of the Oceanside 30' x 60' Topographic Quadrangle, California.: California Geologic Survey, Regional Geologic Map Series, Map No. 2.

Kennedy, M.P., and S.S. Tan. 2008. Geologic Map of the San Diego 30' x 60' Quadrangle, California. California Geological Survey, Regional Geologic Map Series 1:100,000 scale, Map No. 3.

Stephens, F. 1929. "Notes on the Marine Pleistocene of San Diego County, California." *San Diego Society of Natural History, Transactions* 5:245–256.

Tan, S.S., and M.P. Kennedy. 1996. Geologic Maps of the Northwestern Part of San Diego, California: California Division of Mines and Geology Open-File Report 96-02, 2 sheets (scale 1:24,000).

USGS (U.S. Geological Survey). 2007. Divisions of Geologic Time—Major Chronostratigraphic and Geochronologic Units. U.S. Geological Survey Fact Sheet 2007-3015. USGS, Geologic Names Committee.

Valentine, J.W. 1959. "Pleistocene Molluscan Notes. I. The Bay Point Formation at its Type Locality." *Journal of Paleontology* 33:685–688.

Walsh, S.L. 1996. "Middle Eocene Mammal Faunas Of San Diego County, California." In D.R. Prothero and R.J. Emry (Eds.). *The Terrestrial Eocene-Oligocene Transition in North America*. Cambridge England: Cambridge University Press. PP. 75–119.

10.14 SOLID WASTE

CalRecycle (California Department of Resources Recycling and Recovery). 2018a. "Miramar Landfill." Accessed April 12, 2018. http://www.calrecycle.ca.gov/SWFacilities/Directory/37-AA-0020/Detail/.

CalRecycle. 2018b. "Otay Landfill." Accessed April 12, 2018. http://www.calrecycle.ca.gov/SWFacilities/Directory/37-AA-0010/Detail/.

CalRecycle. 2018c. "Sycamore Landfill." Accessed April 12, 2018. http://www.calrecycle.ca.gov/SWFacilities/Directory/37-AA-0023/Detail/.

CalRecycle. 2018d. "Borrego Landfill." Accessed September 19, 2019. https://www2.calrecycle.ca.gov/swfacilities/Directory/37-AA-0006/.

CalRecycle. 2018e. "History of California Solid Waste Law, 1985–1989. AB 939." Accessed April 12, 2018. http://www.calrecycle.ca.gov/laws/legislation/calhist/1985to1989.htm.

CalRecycle. 2018f. "Mandatory Recycling." Accessed April 12, 2018. http://www.calrecycle.ca.gov/Recycle/Commercial/.

CalRecycle. 2018g. "Calculations: Solid Waste Cleanup Program Weights and Volumes for Project Estimates." Last updated August 20, 2018. https://www.calrecycle.ca.gov/swfacilities/cdi/tools/calculations.

CalRecycle. 2019. "Short-Lived Climate Pollutants (SLCP): Organic Waste Methane Emissions Reductions." Last updated April 16, 2019. Accessed April 23, 2019. https://www.calrecycle.ca.gov/climate/slcp.

City of San Diego. 2005. "2005 Street Division Dredge Spoils Management Report." Memorandum to Anthony Raguine (Senior Environmental Planner, General Services Department) from Marianne Greene (Associate Environmental Planner, General Services Department). August 11, 2005.

City of San Diego. 2013. *California Environmental Quality Act Guidelines for a Waste Management Plan.* June 2013. https://www.sandiego.gov/sites/default/files/legacy/environmental-services/pdf/recycling/wmpguidelines.pdf.

City of San Diego. 2015a. *City of San Diego Zero Waste Plan.* Accessed April 12, 2018. https://www.sandiego.gov/sites/default/files/legacy/environmental-services/pdf/recycling/ZWPlan.pdf.

City of San Diego. 2015b. "Public Facilities, Services and Safety Element." In *City of San Diego General Plan*. Accessed April 12, 2018. https://www.sandiego.gov/sites/default/files/pf_2015.pdf.

City of San Diego. 2016. *California Environmental Quality Act Significance Determination Thresholds.* July 2016.

City of San Diego. 2017. "Update on Recycling at City Facilities." Environmental Services Department Staff Report to City Council.

City of San Diego. 2018a. *The Whitebook – Standard Specifications for Public Works Construction*. Accessed November 6, 2018. https://www.sandiego.gov/sites/default/files/the_whitebook_2018_edition_effective_january_1_2019.pdf.

City of San Diego. 2018b. "Miramar Landfill." Accessed April 12, 2018. https://www.sandiego.gov/environmental-services/miramar.

EPA (U.S. Environmental Protection Agency). 2013. "History of RCRA." U.S. Environmental Protection Agency, Wastes, Laws & Regulations. Last updated November 1, 2013. Accessed November 15, 2017. http://www.epa.gov/osw/laws-regs/rcrahistory.htm.

10.15 WATER QUALITY

AEP (Association of Environmental Professionals) 2016. *2016 California Environmental Quality Act (CEQA) Statute and Guidelines*. Accessed April 24, 2018. http://resources.ca.gov/ceqa/docs/2016_CEQA_Statutes_and_Guidelines.pdf.

California Water Boards, San Diego. 2018. "San Diego Region – Total Maximum Daily Loads (TMDL)." Accessed April 15, 2018. https://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/.

CEDEN (California Environmental Data Exchange Network). 2018. "California Environmental Data Exchange Network." Accessed April 16, 2018. http://www.ceden.org/.

City of San Diego. 2012. *Catch Basin Inlet Cleaning Pilot Study*. https://www.sandiego.gov/sites/default/files/sdcatchbasinpilotstudy_final_060812_0.pdf.

City of San Diego. 2014. City of San Diego Groundwater Development & Management. Presentation by the Public Utilities Department to the Integrated Regional Water Management Groundwater Panel. October 2014.

City of San Diego. 2015a. *Jurisdictional Runoff Management Plan (JRMP).* Accessed April 16, 2018. https://www.sandiego.gov/stormwater/plansreports/jrmp.

City of San Diego. 2015b. *Street Sweeping Pilot Study*. https://www.sandiego.gov/stormwater/pilot-projects/streetsweeping 2015.

City of San Diego. 2016. *California Environmental Quality Act, Significance Determination Thresholds*. July 2016.

City of San Diego. 2017. *Drainage Design Manual*. January 2017. Accessed April 17, 2018. https://www.sandiego.gov/sites/default/files/drainage_design_manual_jan2017.pdf.

City of San Diego. 2018a. *Storm Water Standards Manual*. October 2018. https://www.sandiego.gov/sites/default/files/storm_water_standards_manual_oct_2018.pdf.

City of San Diego. 2018b. "City of San Diego Water Supply General Information." Public Utilities Department. https://www.sandiego.gov/water/gen-info/watersupply.

City of San Diego. 2018c. *City of San Diego Jurisdictional Runoff Management Plan*. January 2018. https://www.sandiego.gov/sites/default/files/jrmp-jan-2018.pdf.

County of San Diego. 2003. *Hydrology Manual*. Accessed April 17, 2018. https://www.sandiegocounty.gov/content/sdc/dpw/flood/hydrologymanual.html.

County of San Diego. 2014. *San Diego County Hydraulic Design Manual*. Prepared by the County of San Diego Department of Public Works, Flood Control Section. Accessed April 17, 2018. https://www.sandiegocounty.gov/content/dam/sdc/dpw/FLOOD_CONTROL/floodcontroldocuments/hydraulic_design_manual_2014.pdf.

Michael Baker International. 2015. *Literature Review for Trash Amendment Compliance Strategy*. Contract No. 534079, Task Order 52, Prepared for County of San Diego Department of Public Works, July 31, 2015. Accessed April 16, 2018. https://www.projectcleanwater.org/download/literature-review-for-trash-amendment-compliance-strategy-7-31-2015/?wpdmdl=6055&ind=1522166473283.

Michael Baker International. 2017. *Trash Amendments Baseline Study of Trash Generation Rates.* Task Order 13, Draft Technical Report. Prepared for San Diego County Trash Generation Rate Special Study Participants. Accessed April 18, 2018. https://www.projectcleanwater.org/download/san-diego-county-specific-studies-and-resources/?wpdmdl=5279&ind=1513295939681.

Project Clean Water. 2018. "A Water Quality Resource for the San Diego Region." Accessed April 15, 2018. http://www.projectcleanwater.org/.

Responsible Agencies Los Peñasquitos WMA (Watershed Management Area). 2015. *Los Peñasquitos Watershed Management Area Water Quality Improvement Plan*.

Responsible Agencies Mission Bay WMA. 2016. *Mission Bay Watershed Management Area Water Quality Improvement Plan*.

Responsible Agencies San Diego Bay WMA. 2016. *San Diego Bay Watershed Management Area Water Quality Improvement Plan*.

Responsible Agencies San Diego County. 2018. "Project Clean Water Regional Clearinghouse Document Locations." http://www.projectcleanwater.org/regional-clearinghouse-document-locations/.

Responsible Agencies San Diego River WMA. 2016. *San Diego River Watershed Management Area Water Quality Improvement Plan Annual Report, 2015–2016*.

Responsible Agencies San Dieguito River WMA. 2015. *San Dieguito River Watershed Management Area Water Quality Improvement Plan*.

Responsible Agencies Tijuana River WMA. 2016. *Tijuana River Watershed Management Area Water Quality Improvement Plan*.

RWQCB (Regional Water Quality Control Board). 2002. Resolution No. R9-2002-0123. *Total Maximum Daily Load for Diazinon in Chollas Creek Watershed, Tributary to San Diego Bay*. Technical Report. August 2002.

RWQCB. 2007. Resolution No. R9-2007-0043. *Total Maximum Daily Loads for Dissolved Copper, Lead, and Zinc in Chollas Creek, Tributary to San Diego Bay*. Technical Report. May 2007.

RWQCB. 2010. Resolution No. R9-2010-0001. A Resolution Amending the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) to Incorporate Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beached and Creeks in the San Diego Region (Including Tecolote Creek). Technical Report. February 2010.

RWQCB. 2012. Resolution No. R9-2012-0033. A Resolution Amending the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) to Incorporate the Total Maximum Daily Load for Sedimentation in Los Peñasquitos Lagoon. Technical Report. June 2012.

RWQCB. 2016. *Water Quality Control Plan for the San Diego Basin*. Originally published in 1994, with amendments effective through May 17, 2016. Accessed April 15, 2018. https://www.waterboards.ca.gov/rwqcb9/water_issues/programs/basin_plan/.

RWQCB. 2017. Order No. R9-2017-0077. An Order Directing The Owners and Operators of Phase I Municipal Separate Storm Sewer Systems (MS4s) Draining The Watersheds Within the San Diego Region to Submit Reports Pertaining to the Control of Trash in Discharges From Phase I MS4s to Ocean Waters, Inland Surface Waters, Enclosed Bays, and Estuaries in the San Diego Region.

RWQCB. 2018. TMDL and Water Quality Report Cards. Accessed March 20, 2019. https://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/tmdlproject.html.

San Diego Coastkeeper. 2018. "Swimmable and Drinkable Waters." https://www.sdcoastkeeper.org/learn/swimmable/san-diego-water-quality.

San Diego Region Copermittees. 2015. *Water Quality Equivalency Guidance Document*. http://www.projectcleanwater.org/water-quality-equivalency-guidance/. December 2015.

SCCWRP (Southern California Coastal Water Research Project). 2018. "Southern California Coastal Water Research Project, A Public Agency for Environmental Research." Accessed April 16, 2018. http://www.sccwrp.org/Homepage.aspx.

Schiff, K., J. Griffith, J. Steele. 2016. *The Surfer Health Study: A Three-Year Study Examining Illness Rates Associated with Surfing During Wet Weather*. Costa Mesa, CA: Southern California Coastal Water Research Project. Accessed April 16, 2018. ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/943_SurferHealthStudy.pdf.

SDCWA (San Diego County Water Authority) 2018. "San Diego Region Groundwater." Accessed April 26, 2018. https://www.sdcwa.org/groundwater.

SDCWA. 2018. "Groundwater." Accessed May 2, 2018. https://www.sdcwa.org/groundwater.

SWRCB (State Water Resources Control Board). 2004 amended 2015. *Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List*. https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2015/020315_8_amendment_clean_version.pdf.

SWRCB. 2012a. *Water Quality Control Plan for Ocean Waters of California.* Adopted October 16, 2012; effective August 19, 2013. https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/cop2012.pdf.

SWRCB. 2012b. National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities Order 2012-0006-DWQ. NPDES No. CAS000002 (Construction General Permit). http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

SWRCB. 2015. *Water Quality Control Plan, Ocean Waters of California*. Accessed April 16, 2018. https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/cop2015.pdf.

SWRCB. 2017. "Impaired Water Bodies." Accessed March 22, 2019. https://www.waterboards.ca.gov/sandiego/water_issues/programs/303d_list/.

SWRCB. 2018a. "Surface Water Ambient Monitoring Program." https://www.waterboards.ca.gov/water_issues/programs/swamp/.

SWRCB. 2018b. "California Environmental Data Exchange Network." http://www.ceden.org/.

URS Corporation. 2012. *Storm Drain Insert Pilot Study, Final Report*. Task Order #43, DOC ID# CSD-RT-12-URS43-03. Prepared for City of San Diego, May 25, 2012. Accessed April 16, 2018. https://www.sandiego.gov/sites/default/files/legacy/stormwater/pdf/stormdrainpilotstudy.pdf.

URS Corporation. 2013. *Transportation and Storm Water Department Storm Water Division, Watershed Asset Management Plan*. Task Order #57, DOC ID# CSD-RT-13-URS57-01. Prepared for the City of San Diego, July 19, 2013. Accessed April 16, 2018. https://www.sandiego.gov/sites/default/files/legacy/stormwater/pdf/wamp2013.pdf.

10.16 CUMULATIVE IMPACTS

City of San Diego. 1997. *Multiple Species Conservation Program Subarea Plan*. March 1997. https://www.sandiego.gov/sites/default/files/legacy//planning/programs/mscp/pdf/subareafullversion.pdf.

City of San Diego. 1997. *City of San Diego Land Development Code Final Environmental Impact Report*. Adopted November 18, 1997. https://www.sandiego.gov/sites/default/files/land_devel._code_eir_no._96-0333_with_reso.pdf.

City of San Diego. 2008. *City of San Diego Final Program Environmental Impact Report for the Draft General Plan*. Adopted March 10, 2008.

City of San Diego. 2008. *University Towne Center Revitalization Project (Westfield Redevelopment Project)*. July 2008.

City of San Diego. 2016. *Pure Water San Diego Program EIR*. October 2016.

City of San Diego. 2016. *Heritage Bluffs II Project EIR*. November 2016.

City of San Diego. 2017. *University of San Diego Master Plan Update EIR*. May 2017.

City of San Diego. 2017. *Campus Point Master Plan EIR*. April 2017.

City of San Diego. 2017. *Carroll Canyon Mixed-Use Project EIR*. June 2017.

City of San Diego. 2017. *Town & Country Project EIR*. June 2017.

City of San Diego. 2017. *Alexan Fashion Valley Project EIR*. September 2017.

City of San Diego. 2017. *Legacy International Center Project EIR*. October 2017.

City of San Diego. 2017. *Hillel Center for Jewish Life (HCJL) Project EIR*. July 2017.

City of San Diego. 2018. *Final City of San Diego Vernal Pool Habitat Conservation Plan*. January 2018. https://www.sandiego.gov/sites/default/files/vph-cp.pdf.

City of San Diego. 2018. *De Anza Cove Amendment to the Mission Bay Park Master Plan EIR*. NOP released June 2018.

City of San Diego. 2018. *Balboa Avenue Station Area Specific Plan EIR*. November 2018.

City of San Diego. 2018. *North City Project, Pure Water San Diego Program EIR/EIS*. April 2018.

City of San Diego. 2018. *The Preserve at Torrey Highlands EIR*. June 2018.

City of San Diego. 2018. *Costa Verde Revitalization Project EIR*. September 2018.

City of San Diego. 2018. *Candlelight Development Project EIR*. July 2018.

City of San Diego. 2018. *Merge 56 Development Project EIR*. February 2018.

City of San Diego. 2018. *Discovery Center Final MND*. August 2018.

City of San Diego. 2019. "Pure Water San Diego." Accessed May 2019. https://www.sandiego.gov/public-utilities/sustainability/pure-water-sd.

City of San Diego. 2019. *Morena Corridor Specific Plan EIR*. February 2019.

City of San Diego. 2019. *Morena Apartment Homes Project EIR*. January 2019.

City of San Diego. 2019. *Mission Trails Regional Park Master Plan Update/Natural Resources Management Plan*. Adopted May 22, 2019, by City Council Resolution R-312488. https://www.sandiego.gov/sites/default/files/mtrp_mpu_aug2019_web.pdf; https://www.sandiego.gov/sites/default/files/nrmp_mtrp_020819.pdf.

City of San Diego. 2019. *Riverwalk Project*. NOP Released April 2019.

City of San Diego. 2019. *Avion Property.* NOP Released July 2019.

County of San Diego. 1997. *San Diego Multiple Species Conservation Program EIR*. October 1997.

County of San Diego. 2010. *County of San Diego Vector Control Program Final Program EIR.* March 2010.

County of San Diego. 2011. *County of San Diego General Plan.*

San Diego County ALUC (Airport Land Use Commission). 2008. *MCAS Miramar Airport Land Use Compatibility Plan*.

San Diego County ALUC. 2014. *San Diego International Airport – Airport Land Use Compatibility Plan (ALUCP) EIR*. April 2014.

San Diego County Regional Airport Authority. 2018. *San Diego International Airport Development Plan EIR*. July 2018.

San Diego State University. 2019. *Mission Valley Campus Master Plan Project NOP*. January 2019.

SANDAG (San Diego Association of Governments). 2004. *Regional Comprehensive Plan (RCP)*. July 2004.

SANDAG. 2014. *Mid-Coast Corridor Transit Project EIR/EIS*. September 2014.

SANDAG. 2015. *San Diego Forward: The Regional Plan*. October 2015. https://sdforward.com/pdfs/Final_PDFs/The_Plan_combined.pdf.

UC San Diego (University of California at San Diego). 2017. *Mesa Housing Nuevo West and East Project EIR*. October 2017.

UC San Diego. 2018. *North Torrey Pines Living and Learning Neighborhood Project EIR*. March 2018.

UC San Diego. 2018. *UC San Diego 2018 Long Range Development Plan (LRDP), La Jolla Campus EIR*. November 2018.

USMC (U.S. Marine Corps). 2011. *2011–2015 MCAS Miramar Integrated Natural Resources Management Plan*. August 2011.

10.17 EFFECTS NOT FOUND TO BE SIGNIFICANT

City of San Diego. 2016. *California Environmental Quality Act Significance Determination Thresholds.* July 2016.

City of San Diego. 2018. Stormwater Standards Manual. https://www.sandiego.gov/ sites/default/files/january_2018_storm_water_standards_manual_1.pdf.

Department of Conservation. 1996. "Generalized Mineral Land Classification." Accessed February 21, 2017. ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ofr/ OFR_96-04/OFR_96 04_Plate1.pdf.

10.18 COMPARISON OF ALTERNATIVES

USACE (U.S. Army Corps of Engineers, Los Angeles District). 1999. Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual. December 1999.

USACE. 2017. "2017 Nationwide Permits, General Conditions, District Engineer's Decision, Further Information, and Definitions." Originally published in the *Federal Register*, January 6, 2017 (82 FR 1860). https://usace.contentdm.oclc.org/utils/getfile/collection/p16021coll7/id/8593.

CHAPTER 11 LIST OF PREPARERS

11.1 CITY OF SAN DIEGO

Planning Department

Heidi Vonblum, Program Manager
Kristen Forburger, Development Project Manager III
Myra Herrmann, Senior Planner
Bernie Turgeon, Senior Planner
Julia Chase, Senior Planner

Development Services Department

Helene Deisher, Development Project Manager II
Mark Brunette, Senior Planner
Jim Quinn, Senior Engineer Geologist
Louis Shultz, Senior Engineer
Emma Haggerty, Associate Planner
Brian Panther, Solid Waste Inspector III

Environmental Services Department

Lisa Wood, Principal Planner
Jane-Marie Fajardo, Senior Planner

Transportation & Storm Water Department

Christine Rothman, Development Project Manager III
Anne Jarque, Senior Planner
Mayra Medel, Senior Planner
Chris Gascon, Senior Civil Engineer
Margaret McCormick, Associate Engineer
Anna Wernet, Associate Engineer
Elizabeth San Pedro, Assistant Engineer

Office of the City Attorney

Davin Widgerow, Deputy City Attorney

11.2 DUDEK

Vipul Joshi, Project Manager
Carey Fernandes, CEQA Project Manager
Alex Martini, CEQA Analyst
Joshua Sanders, Aesthetics and Visual Character Lead
Jennifer Reed, Air Quality/Greenhouse Gas Lead
Rose Kelly, Air Quality/Greenhouse Gas Analyst
Samantha Wang, Air Quality/Greenhouse Gas Analyst
Scott Gressard, Biological Resource Lead
Glenna McMahon, Hazards and Health and Safety Lead
Micah Hale, Archeological and Tribal Cultural Resources Lead
Matt DeCarlo, Archeological and Tribal Cultural Resources Analyst
Kara Dotter, Historical Resources Lead
Nicole Rieger, Hydrology and Hydraulics Lead
Mike Greene, Noise Resources Lead
Sarah Siren, Paleontological Resources Lead
Bryn Evans, Water Quality Lead
Curtis Battle, Geographic Information Systems Lead
Anne McDonnell, Technical Editor
Chelsea Ringenback, Publications Specialist

11.3 MICHAEL BAKER INTERNATIONAL

Brianna Gustafson, Solid Waste Lead