ATTACHMENT B

OTAY WATER DISTRICT

2015 Water Facilities Master Plan Update

Final
Program Environmental Impact Report

SCH No. 2015061091

November 2016

Prepared for:

Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley, California 91978-2096

Prepared by:

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COMMENTS RECEIVED ON THE DRAFT PROGRAM EIR AND RESPONSES

Introduction

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, a Draft EIR was prepared by the Otay Water District (OWD) for the proposed 2015 Water Facilities Master Plan (WFMP) Update EIR (SCH #2015061091). The Draft EIR was submitted to the Governor's Office of Planning and Research State Clearinghouse and circulated for a 45-day public review period beginning on August 3, 2016 and ending on September 17, 2016. During that time, the document was reviewed by various state and local agencies, as well as by interested individuals and organizations. A letter was received from the Governor's Office of Planning and Research indicating that the State Clearinghouse submitted the Draft EIR to selected state agencies for review. All comments received by OWD have been fully addressed in written responses. The public review comments and OWD's corresponding responses are provided below.

This Final EIR includes the following items as required in Section 15132 of the State CEQA Guidelines

- The draft EIR or a revision of the draft;
- Comments and recommendations received on the Draft EIR;
- List of persons, organizations and public agencies commenting on the Draft EIR;
- Responses of the lead agency to significant environmental points raised in the review; and
- Any additional information considered pertinent by the lead agency.

Revisions to the Draft EIR

The Final EIR includes minor text and graphical clarifications to the DEIR as a result of the comments received during the public review period. Material added or deleted to the DEIR and technical reports are identified in tracking mode in the Final EIR (~~strikeout~~ for deletion/<u>underline</u> for insertion), so that the original and revised text may be compared.

The clarifications to the EIR do not result in any new significant environmental impacts, an increase in the severity of previously identified project impacts, or new feasible project alternatives or mitigation measures that are considerably different from others previously analyzed. Therefore, these clarifications do not trigger recirculation of the EIR, per Section 15088.5 of the CEQA Guidelines.

Draft EIR Comments and Responses

The written comments provided on the following pages were submitted to OWD during the public review period for the 2015 WFMP Update EIR (SCH No. 2015061091) dated August, 2016. All comment letters

received were individually numbered, as indicated below in the Comment Letter Index. Responses to each comment are provided after the appropriate comment letter. Some comment letters received during the DEIR public review period contained comments that resulted in changes to the Final EIR text.

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Letter 1 California Governor's Office of Planning and Research State Clearinghouse

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

September 16, 2016

Lisa Coburn-Boyd
Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley, CA 91978-2096

Subject: Otay Water District 2015 Water Facilities Master Plan Update
SCH#: 2015061091

Dear Lisa Coburn-Boyd:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on September 15, 2016, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation." 1-1

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2015061091
Project Title Otay Water District 2015 Water Facilities Master Plan Update
Lead Agency Otay Water District

Type EIR Draft EIR

Description The purpose of the 2015 WFMP Update is to revise the OWD 2009 WRMP; update planning criteria and OWD's hydraulic system models; map out water and recycled water facility improvements; update OWD's Capital Improvement Program projects; and identify adaptive responses to changed conditions. The 2015 WFMP Update identifies the necessary potable and recycled water CIP facilities, associated probable cost estimates, and develops a phased approach to implement the CIP projects. The CIP projects identified in the 2015 WFMP update will ensure an adequate, reliable, flexible, and cost effective potable and recycled water delivery system. The 2015 WFMP Update PEIR will provide the basis for the subsequent environmental review for these future CIP projects.

Lead Agency Contact

Name Lisa Coburn-Boyd
Agency Otay Water District
Phone (619) 670-2219 **Fax**
email
Address 2554 Sweetwater Springs Boulevard
City Spring Valley **State** CA **Zip** 91978-2096

Project Location

County San Diego
City
Region
Lat / Long
Cross Streets I-805, SR 94, SR 125
Parcel No. various
Township **Range** **Section** **Base**

Proximity to:

Highways I-805, SR 94, 125
Airports
Railways
Waterways Sweetwater River, Otay River
Schools
Land Use Various

Project Issues Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Minerals; Noise; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects; Aesthetic/Visual; Traffic/Circulation

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 5; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 11; State Water Resources Control Board, Division of Drinking Water; State Water Resources Control Board, Division of Drinking Water, District 14; Regional Water Quality Control Board, Region 9; Native American Heritage Commission; State Lands Commission

Date Received 08/02/2016 **Start of Review** 08/02/2016 **End of Review** 09/15/2016

Response to Letter 1

1-1 This comment letter states that the Governor's Office of Planning and Research (OPR) submitted the IS/MND to selected state agencies for review. The letter also confirms that the IS/MND public review period closed on September 15, 2016 and includes a list of agencies that received the IS/MND. However, the close of public comment was September 17, 2016, and the OWD has accepted public comment up to September 23, 2016. No response is necessary.

Letter 2 U.S. Fish and Wildlife Service and California Department of Fish and Wildlife

U.S. Fish and Wildlife Service
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008
760-431-9440
FAX 760-431-9624

California Department of Fish and Wildlife
South Coast Region
3883 Ruffin Road
San Diego, California 92123
858-467-4201
FAX 858-467-4299

In Reply Refer To:
FWS/CDFW-SDG-16B0346-16CPA0369

September 23, 2016
Sent by Email

Ms. Lisa Coburn-Boyd
Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley, California 91978-2004

Subject: Notice of Availability of a Draft Program Environmental Impact Report for the Otay Water District 2015 Water Facilities Update (SCH # 2015061091), Otay Water District, San Diego County

Dear Ms. Coburn-Boyd:

The U.S. Fish and Wildlife Service (Service) and the California Department of Fish and Wildlife (Department), hereafter collectively referred to as the Wildlife Agencies, have reviewed the above referenced draft Program Environmental Impact Report (PEIR) for Otay Water District's (OWD) 2015 Water Facilities Master Plan (WFMP) Update dated August 2, 2016. We would like to thank you for the extension that you granted us until September 23, 2016 to submit comments after requesting an extension of the public comment period. The Wildlife Agencies have identified potential effects of this project on wildlife and sensitive habitats. The project information provided herein is based on the draft PEIR. The comments and recommendations provided are based on our knowledge of sensitive and declining vegetation communities in the south San Diego area and our participation in regional conservation planning efforts.

The primary concern and mandate of the Service is the protection of fish and wildlife resources and their habitats. The Service has the legal responsibility for the welfare of migratory birds, anadromous fish, and threatened and endangered animals and plants occurring in the United States. The Service also is responsible for administering the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), including habitat conservation plans (HCPs) developed under section 10(a)(2)(A) of the Act. The Department is a Trustee Agency and a Responsible Agency pursuant to the California Environmental Quality Act (CEQA; §§15386 and 15381, respectively) and is responsible for ensuring appropriate conservation of the State's biological resources, including rare, threatened, and endangered plant and animal species pursuant to the California Endangered Species Act (CESA; Fish and Game Code §2050 *et seq.*) and other sections of the Fish and Game Code. The Department also administers the Natural Community Conservation Planning (NCCP) program (Fish and Game Code 2800, *et seq.*). 2-1

The OWD service area consists of 80,320 acres (125.5 square miles), and provides water service to approximately 217,000 residents. The OWD boundaries encompass a large portion of eastern Chula Vista, a portion of the city of San Diego on Otay Mesa, and various unincorporated areas, including Rancho San Diego, Jamul, Spring Valley, Bonita, Otay Mesa, and areas adjacent to El Cajon and La Mesa. An additional 11 square miles on the OWD's eastern flank are designated by the San Diego

Local Area Formation Commission (LAFCO) as being within the OWD's Area of Influence (AOI; also known as Sphere of Influence, or SOI), but outside its current active service area; this area will likely be annexed into the Service area once developed. The OWD water service area is divided into five distinct water service areas: Hillsdale, La Presa, Regulatory, Central, and Otay Mesa.

The stated purpose of the 2015 WFMP is to revise the OWD 2009 WFMP, update planning criteria and OWD's hydraulic system models, map out water and recycled water facility improvements, update OWD's Capital Improvement Program (CIP) projects, and identify adaptive responses to changed conditions. The CIP projects identified in the 2015 WFMP Update can be classified into five general categories: storage, pump station, pipeline, water supply, and miscellaneous CIP projects. The PEIR proposes to implement measures Bio 1A-E, along with other measures to avoid and minimize impacts to biological resources. **2-1 cont**

CEQA Compliance and Document Structure and Content

The Department offers the following comments and recommendations on the written format and content of the document. Section 15200 of the CEQA guidelines states that the purpose of the review of environmental documents is "Sharing expertise, disclosing agency analysis, checking for accuracy, detecting omissions, discovering public concerns, and soliciting counter proposals." To this end, the Department recommends a few edits to the document as noted below.

Document Format

Section 4.2.1.3 Special-Status Biological Resources discusses special status species and how they are determined, but the organization of the document makes it difficult to analyze those species with respect to other aspects within the document due to format.

1. In both the sensitive plant and animal sections the document states, "a complete list of…sensitive-species that potentially occur within the planning area are included in Appendix B." Sensitive–status species, both listed and not listed, are important resources that should be acknowledged and analyzed under CEQA within the body of the document and not relegated to Appendix B without discussion. There are a number of sensitive species including California Native Plant Society (CNPS) 1A, 1B.1, 1B.2; fully protected species; and Species of Special Concern, that are not mentioned in the body of the document, or within the avoidance, minimization, and mitigation measures Bio 1A–E. Please include a discussion within the main body of the document of these other species, such as the burrowing owl (*Athene cunicularia*), which will require additional avoidance and mitigation if found within the project area; the white tailed kite (*Elanus leucurus*) for which no take is allowed, yet is identified in Appendix B that it is known to occur; the Quino checkerspot butterfly (*Euphydryas editha quino*), which may require host plant mapping in addition to surveys; and vernal pool plant species. **2-2**

2. The colors used on the CNDDB maps in Appendix B (Figures B-2- B-2e) for San Diego fairy shrimp (*Branchinecta sandiegonensis*) and San Diego ambrosia (*Ambrosia pumila*) are almost indistinguishable from one another and make analysis difficult. We recommend using colors that are easier to distinguish in the final PEIR. **2-3**

Regulatory Section

Within Chapter 4.2: Biological Resources, there are some inaccurate or misleading statements with respect to the regulatory setting.

3. The document incorrectly lists the Migratory Bird Treaty Act of 1918 (MBTA) as 16 United States Code (USC) 703-711. The correct code is 16 USC 703-712 and all species protected by the MBTA are listed in 50 CFR 10.13. Also, in order to maintain consistency within the federal regulatory setting section, all associated codes should be listed under their respective acts. 2-4

4. The document is unclear in its references to CESA, which is regulated collectively through sections 2050-2081 of the Fish and Game Code. CESA prohibits the take of listed species in section 2080, and allows for incidental take to listed species through the Incidental Take Permit program (ITP, section 2081), and Consistency Determinations (CD, Sections 2080.1) which is partially referenced in the CESA section of the document. The document then identifies Fish and Game Code 2080(b) and (c), which do not exist. This language appears to be taken from (b) and (c) of section 2081. As noted above, the 2080 prohibition has subsequent subsections which note exceptions to the prohibition. Section 2080.1 is normally referred to as a Consistency Determination, where the Department may concur with an already approved Biological Opinion (BO) to receive take under CESA. OWD should be aware that the Department is no longer likely to process a CD for state listed plants, even though we had previously done so for OWD in the distant past. The paragraph also states "This regulation differs from the CESA because it requires project impacts to be fully mitigated, with adequate funding ensured." This statement is not accurate, and should be removed from the document. CD's, due to the Department's requirement to make sure the BO is consistent with CESA, and CESA itself, both require that impacts are fully mitigated and have adequate funding assurances. 2-5

5. The document also refers to Fish and Game Code 3800: Nongame birds; Mitigation plans relating to mining operations. It is unclear how this relates to the project, since the project is not a mining operation. 2-6

6. Under the section San Diego County Habitat Loss Permit (HLP), the document erroneously identifies the "Special 4(d) rule under CESA". Please clarify that the Service promulgated the 4(d) special rule pursuant to the Act for the federally threatened coastal California gnatcatcher (*Polioptila californica californica*; gnatcatcher). The PEIR should explain how the 4(d) take exemption would apply to OWD projects; otherwise, we recommended the reference to the 4(d) special rule be deleted. 2-7

Biological Resource Impacts

The Wildlife Agencies offer the following specific comments and recommendations to assist OWD in avoiding, minimizing, and adequately mitigating project-related impacts to biological resources. 2-8

Early Chapters

7. The draft PEIR in Chapter 1.2 discusses the process for further CEQA analysis of future projects with respect to what is already analyzed in the draft PEIR. It states, "If a later

activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration". It goes on to say, "If the lead agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required". However, the Wildlife Agencies believe that information within the draft PEIR is insufficient to analyze specific project-related impacts to native or naturalized habitat, or to sensitive species, due to the lack of site-specific information (i.e. environmental baseline at project site, approximate acreages of impact to sensitive habitats and species). Therefore, any project within the program which is located adjacent to native or naturalized habitat, or will affect sensitive species or impact regional conservation plans, will require subsequent environmental documentation and review to fully disclose and address project-specific impacts. The final PEIR should explicitly address how OWD intends on making the determination of the level of subsequent environmental documentation. **2-8 cont**

8. The draft PEIR quotes CEQA Guideline 15168 (c)(4) in Chapter 1.2, "Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR". Since most activities proposed under this PEIR would involve site-specific operations, a method or checklist for determining the environmental effects of the action with respect to the site should be included within the final PEIR. The checklist should include an analysis of the project location with respect to native or naturalized habitat, and sensitive species documented in Appendix B, as well as effects to regional conservation plans. If the check list or determination for a subsequent project identifies that the action is within or adjacent to native or naturalized habitat, and may impact associated species, subsequent environmental documentation is required to fully address potential impacts. **2-9**

Lack of Impact Analysis

9. Similar to comments on the 2009 WFMP in our letter dated September 3, 2009, the evaluation of biological resource impacts in the draft PEIR is very general and it is unclear how OWD will evaluate the environmental implications of adopting the 2015 WFMP Update, as stated in the *Executive Summary* section (page ES-1). For example, there are no acreage calculations for rare or sensitive habitat types that may be lost due to implementation of the 2015 WFMP. A current analysis of impacts to sensitive plant and animal species is also absent. To adequately determine the environmental implications of adopting the 2015 WFMP, a more thorough, and current assessment of habitat impacts and the timeline of associated impacts (i.e. the estimated number of acres lost per year) should be conducted. In the Department's Notice of Preparation (NOP) comment letter dated July 23, 2105, it was recommended that OWD specify the acreage and descriptions of the types of wetlands, coastal sage scrub, and other sensitive habitats that will or may be affected by the proposed project or project alternatives. However, acreage-impact information was not included in the draft PEIR. Because OWD would tier from the PEIR for future CIP projects, we recommend acreage-impact information be provided in the final PEIR to better articulate biological impacts and future mitigation, which will enable OWD to better determine the environmental implications of adopting the 2015 WFMP. **2-10**

10. The draft PEIR provides limited information on potential impact footprints for pipelines, pump stations, and reservoirs other than general structural descriptions (e.g. "Typical reservoir sites consist of a storage tank (reservoir) constructed on a level, graded pad"). We recognize site-specific details may not be currently available; however, the Wildlife Agencies have coordinated on several OWD projects involving pipelines, pump stations, and reservoirs where acreage impacts were calculated for these facilities. We recommend that OWD estimate typical acreage needs for these facilities based on past experiences and conduct a coarse impact assessment for habitat types based on the project's preliminary location and acreage impacts. This information should then be provided in the final PEIR (CEQA Guidelines, §15146(a)). **2-11**

11. Impacts to conservation areas were not sufficiently analyzed in the draft PEIR. The documents states, "According to Section 53091 of the California Government Code, building and zoning ordinances (and by inference the planning policies of local land use agencies) do not apply to the location or construction of facilities used for the production, generation, storage, or transmission of water". The WFMP describes projects that traverse conserved open spaces including CIP projects identified in Figure 4.2-2: P2379, P2248, P2412, P2411, P2202, P2393, P2431, P2142, P2576, P2002, P2037, P2579, P2392, and 2228. These areas may have conservation easements, which prohibit certain types of activities such as construction of infrastructure. If no existing easements or rights-of-way (ROW) exist that provide for the construction of OWD facilities, we strongly recommend projects consider alternatives outside of conserved lands. The final PEIR should also demonstrate that OWD projects will comply with all of the underlying conservation measures of the respective Multiple Species Conservation Program (MSCP) subarea plans that may allow for infrastructure projects cited within preserve lands. These conservation measures may include but are not limited to, citing criteria and narrow endemic policies. **2-12**

Chapter 4.2 Biology

12. The draft PEIR erroneously states in the Sensitivity Designations subsection that Act does not protect plant species. Please note that section 9 of Act prohibits the destruction, damage, or removal of federally listed plant species on Federal lands, or when doing so in violation of any State law or regulation on non-Federal lands, or in the course of any violation of a State criminal trespass law. It appears that OWD has projects that occur on Federal lands, including the San Diego National Wildlife Refuge. Please revise this statement in the final PEIR. **2-13**

13. Table 4.2-1 incorrectly lists Otay tarplant [*Deinandra conjugens* (*Hemizonia c.*)] as an endangered species under the Act and as not listed under CESA. The Service listed Otay tarplant as a federally threatened species in October of 1998, and the Department listed it as endangered in November of 1979. **2-14**

14. Please revise the headings in Table 4.2-2 and 4.2-3 to "State and Federally Listed Plant Species…" and "Animal Species" respectively, since the tables refer to both. These tables should also include state Fully Protected species, Species of Special Concern, and CNPS 1A, 1B.1 and 1B.2 plants as they are also important to address during CEQA analysis. These species should be discussed in this section and measures to avoid, minimize, or mitigate potential impacts to these species should be included to the extent possible. As noted in comment 1 on the format section, we believe the discussion of these species in Appendix B is insufficient. **2-15**

15. The draft PEIR incorrectly states in Table 4.2-2 that Otay tarplant does not occur with the Otay area of OWD planning area. However, Appendix B-2e correctly identifies Otay tarplant as occurring within the Otay planning area. Table 4.2-4 also misidentifies areas where Quino checkerspot butterfly and Hermes copper butterfly (*Lycaena hermes*) occur, as these species are known to occur within the OWD planning area. Please revise Tables 4.2-2 and 4.2-4 in the final PEIR accordingly. **2-16**

16. Listing a species as absent within specific service areas in Tables 4.2-2 and 4.2-4 does not preclude the need to survey for those species within appropriate habitat occurring in those areas. The PEIR should acknowledge that project specific surveys will need to be conducted based on suitable habitats and the potential direct and indirect effects. **2-17**

17. Pipeline and associated reservoir P2037 as shown in map 4.2-2 traverses the future Village 13 development, where the development footprint has not yet been specifically determined. The Wildlife Agencies recommend that the pipeline be located within the roads wherever feasible, and not in associated open space, as shown on map 4.2-2. Tiered CEQA documents should consider alternatives where the pipeline is located outside of any designated open space/conservation lands in order to avoid potential impacts to a core population of Quino checkerspot butterfly. Early coordination with the Service is strongly recommended regarding potential impacts to Quino checkerspot butterfly. **2-18**

18. Mitigation/Performance Measure Bio-1B(ii) states that "…if active nests for avian species of concern are found within the disturbance limits, then species-specific measures prescribed by the MBTA shall be implemented…" Please note that the MBTA does not identify species-specific measures. We recommend the final PEIR incorporate a minimum buffer of 300 feet for passerine and 500 feet for raptor species in order to minimize potential disturbances to nesting birds from construction activities. **2-19**

19. Mitigation/Performance Measure Bio-1B(iv)(c) states that if CIP projects requiring Federal permits or funding occur within designated critical habitat or if listed species occur within designated critical habitat, then a section 7 consultation shall be initiated by the appropriate Federal permitting agency. Impacts to federally listed species may occur regardless of whether or not the species is found within designated critical habitat. If the project may affect federally listed species <u>or</u> their designated critical habitat and there is a federal nexus, the federal action agency is required to consult with the Service. We recommend the term "federal nexus" be used rather than federal permitting agency, as section 7 consultations may be initiated through actions other than the issuance of Federal permits. Additionally, we recommend projects without a Federal nexus that will result in take of a federally listed species seek a section 10(a)(1)(B) permit from the Service. Section 10 permits should be reflected in the potential permits and approvals in Table 3-6. Please revise this mitigation measure and Table 3-6 in the final PEIR. **2-20**

20. Section 4.2.3.4 regarding wildlife movement corridors and nursery sites states that "Implementation of some of the CIPs located in the OWD planning area (refer to Tables 4.2-7 and 4.2-8 and Figure 4.2-3) would have the potential to temporarily impact wildlife movement corridors". It goes on to say that implementation of mitigation measures Bio 1A – 1E would reduce direct and indirect impacts to wildlife movement corridors to less than significant levels. The Wildlife Agencies do not believe there is sufficient evidence to reach this conclusion. Although OWD did identify Bio-1E which calls for low **2-21**

illumination shielded lighting and bio-monitors, additional measures can be implemented to help avoid impacts to wildlife movement. We recommend OWD identify and adopt best management practices such as the use of escape ramps, boards to cover holes when not in use, exclusionary fencing, inspections of trenches before backfilling, and inspections of pipes before burying to avoid entrapment of wildlife that may move across project areas. We also recommend that efforts be made to avoid locating projects, particularly above ground facilities that would block or constrain movement, within wildlife corridors and linkages identified through regional MSCP planning efforts. **2-21 cont**

Chapter 4.9 Land Use

21. Section 4.9.1 states, "Because the CIP pipelines would be buried, it is not necessary to consider these projects in this land use analysis." We believe this statement is inaccurate because the PEIR does not acknowledge conservation areas as a land use in which proposed activities may temporarily or permanently impact the resources for which the land was intended to conserve. Buried pipelines, although allowed within certain preserve areas, may have a considerable land use impact if located within conservation areas. Pipeline projects should also be considered in the LU-PDF 1-3 avoidance measures. The Wildlife Agencies recommend that when possible, pipeline projects be located in road easements and disturbed areas to minimize impacts to species habitat and avoid impacts to land dedicated for regional conservation. We recommend this section of the PEIR be revised to acknowledge conservation lands as a land use. **2-22**

22. The limited discussion and mitigation measures in 4.9.3.1 LU-PDF 1-3 are not fully consistent with underlying MSCP subarea plans, such as the City of San Diego Subarea Plan, County of San Diego Subarea Plan, and the Chula Vista Subarea Plan, which have more in-depth land use adjacency guidelines to avoid impacts within and adjacent to the preserve areas. OWD should refer to section 1.4.3 of the City of San Diego Subarea Plan, section 1.10 of the County of San Diego Subarea Plan, and section 7.5.2 of the Chula Vista Subarea Plan for a more complete list of adjacency guidelines. LU1-PDF 3 is not a complete list of all relevant adjacency guidelines. For example, barriers to prevent illegal access should be included in all jurisdiction preserve areas, but is only stated for LU1-PDF 2 and is missing for LU-PDF 3 for Chula Vista. Since the WFMP project will have effects on preserve areas that are governed by their respective subarea plans and area specific management directives, all applicable adjacency guidelines from the respective plans should be included in LU-PDF 1-3. **2-23**

Subsequent Chapters

23. Section 15091 (d) and 15097 of the CEQA guidelines discuss the need for a mitigation and monitoring program (MMRP) to ensure that revisions to avoid and minimize environmental impacts identified in the PEIR are implemented. The draft PEIR identifies avoidance and minimization measures in Table S-1 and within the subsequent chapters, but the document does not contain an MMRP to clearly state who is responsible for the implementation of each measure. An MMRP should be included in the final PEIR, and should include measures Bio-1A-E, measures to address wildlife movement as discussed in comment 20, and LU-PDF 1-3. **2-24**

24. The draft PEIR analysis is insufficient to determine if the implementation of the 2015 WFMP Update would result in a cumulative loss of sensitive biological resources within the OWD planning area. We recommend that a more comprehensive analysis be completed for the final PEIR. **2-25**

25. Similar to comments on the 2009 WFMP in our letter dated September 3, 2009, because the baseline information in the draft PEIR is so general, the Wildlife Agencies recommend that the final PEIR contain a statement which requires a more comprehensive alternatives analysis in subsequent project environmental documents. **2-26**

We appreciate the opportunity to comment on the draft PEIR. If you have questions regarding this letter, please contact Elyse Levy of the Department at (858) 467-4237 or Emily Cate of the Service at (760)-431-9440, extension 252. **2-27**

Sincerely,

DOREEN STADTLANDER Digitally signed by DOREEN STADTLANDER Date: 2016.09.23 11:05:59 -07'00'

for Karen A. Goebel
Assistant Field Supervisor
U.S. Fish and Wildlife Service

Gail K. Sevrens
Environmental Program Manager
California Department of Fish and Wildlife

cc: State Clearinghouse

Response to Letter 2

2-1 This comment is an introduction and does not address the adequacy of the environmental document; therefore, no response is necessary.

2-2 Comment noted. By implementing Bio-SCP-1 and Bio-1A – Bio-1G impacts to sensitive habitat and species would be significantly avoided. Specifically, Bio-1A and Bio-1B require additional mapping, surveys, and consultation with CDFW and USFWS prior to the CEQA approval (as part of the "tiered process"), final design, and construction of individual CIP projects. This would be inclusive of all species in Appendix B.

2-3 Comment noted. The colors for San Diego fairy shrimp and San Diego ambrosia will be altered to more easily distinguish between the two.

2-4 Comment noted, the code associated with the Migratory Bird Treaty Act of 1918 will be amended to reflect the correct code. Additionally, the federal regulatory setting will be amended and will list the associated codes under their respective acts.

2-5 Comment noted. OWD acknowledges that the CDFW is no longer likely to process a Consistency Determination (CD) for state listed plants.

2-6 Comment noted. Fish and Game Code 3800 has been omitted from State Regulatory Framework.

2-7 Comment noted. Discussion regarding Special 4(d) rule under the CESA has been eliminated.

2-8 Comment noted. Upon adoption of a program EIR, CEQA Guideline 15168 (c) allows for a Lead Agency to determine the level of environmental documentation required for projects identified in the program EIR. OWD will consider impacts on an individual project basis and will determine the level of environmental documentation needed to satisfy CEQA requirements. Additionally, OWD has provided a checklist for determining the environmental effects of a proposed project identified in the program EIR; this checklist is included as Appendix C in the final EIR.

2-9 Comment noted. See response to comment 2-8 for a discussion regarding impact analysis and level of environmental documentation required for projects identified in the program EIR.

2-10 Comment noted. An acreage table of sensitive plant and animal species impacted due to implementation of the proposed project will be included in the final EIR.

2-11 Comment noted. An assumed width of impact for pipeline and other facilities will be used to estimate acreage impacts associated with implementation of the proposed project.

2-12 Comment noted. OWD utilizes siting measures to avoid impacts where necessary and select sites that are near development. A checklist regarding individual project impacts, as described in response to comment 2-8, will be used to address impacts on the project level.

2-13 Comment noted. The statement regarding FESA not protecting plants has been stricken from the text.

2-14 Comment noted. The table now reflects that the Otay tarplant has been identified as threatened by the USFWS and as endangered by the CDFW.

2-15 See response to comment 2-2 regarding a discussion of fully protected species, species of special concern, and CNPS 1A, 1B.1 and 1B.2 species. Additionally, headings in Table 4.2-2 and 4.2-3 have been edited to indicate State listed species are included in the tables.

2-16 Comment noted. Mitigation measure Bio-1A does not limit the surveys to species identified in Tables 4.2-2 and 4.2-4. If the survey identifies any listed species, mitigation measure Bio-1B will be initiated, and impacts to any listed species will be minimized.

2-17 Comment noted. Tables have been amended to reflect the presence of the species noted in the comment (Otay tarplant, Quino checkerspot butterfly, Hermes copper butterfly).

2-18 Comment noted. OWD will consult with USFWS and CDFW prior to the siting of any facility or pipeline that has the potential to impact sensitive species. Whenever possible, pipelines and facilities will be located within roads, easement, or disturbed areas and will comply with land use guidelines.

2-19 Comment noted. Mitigation measure Bio-1B(ii) has been amended to reflect Wildlife Agency recommendations for nesting birds.

2-20 Comment noted. Table 3-6 and mitigation measure Bio-1B(iv)(c) have been updated to reflect the desired changes.

2-21 Comment noted. Mitigation measures Bio-1F and Bio-1G have been added to help avoid impacts to wildlife movement. See response to comment 2-12 for a discussion regarding siting of future projects identified in the program EIR.

2-22 Comment noted. OWD acknowledges that consultation with agencies will occur during the siting process when there is potential for impact to sensitive species and comply with land use guidelines. In addition, each project will be analyzed and whenever possible, pipelines and other facilities will be located within roads, easements, and disturbed areas.

2-23 Comment noted. Additional Land Use Project Design Features have been included in the final EIR. The final EIR now includes all relevant adjacency guidelines from the City of San Diego Subarea Plan, the County of San Diego Subarea Plan, and the Chula Vista Subarea Plan.

2-24 Comment noted. The final EIR will include an MMRP, and will include the added mitigation measures Bio-1F and Bio-1G, and the additional guidelines measures in LU-PDF 1-3.

2-25 Comment noted. The level of analysis for the programmatic level environmental document addresses the known impacts at the time of conception; further impact analysis is not feasible at this time. Consultation with agencies will occur prior to the implementation of projects identified in the final EIR.

2-26 Comment noted. For a discussion regarding impact analysis of future projects identified in the final EIR see response to comment 2-8.

2-27 This comment is the conclusion statement for the letter and does not address the adequacy of the environmental document; therefore, no response is necessary.

Letter 3 California Department of Transportation (Caltrans) District 11

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 11
4050 TAYLOR STREET, MS 240
SAN DIEGO, CA 92110-2714
PHONE (619) 688-6960
FAX (619) 688-4299
TTY (619) 688-6670

Serious Drought.
Serious drought.
Help save water!

September 14, 2016

11-SD-125, 54, 94, I-805
Varies
Otay Water District Water Facilities Master Plan Update PEIR

Ms. Lisa Coburn-Boyd
Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley, CA 91978-2004

Dear Ms. Coburn-Boyd:

The California Department of Transportation (Caltrans) appreciates the opportunity to have reviewed the Otay Water District 2015 Water Facilities Master Plan Update Draft Program Environmental Impact Report (PEIR). We have the following comments: **3-1**

Any utility work or crossings performed within Caltrans Right-of-Way (R/W) will require discretionary review and approval by the Department. Please refer to Caltrans Encroachment Permits Manual for information on utility encroachment. **3-2**

Copies of all project-related environmental documentation and studies should be included with the project proponent's encroachment permit application to Caltrans for work within State R/W. If these materials are not included with the encroachment permit application, the applicant will be required to acquire and provide these to Caltrans before the permit application will be accepted. Encroachment permit submittals that are incomplete can result in significant delays in permit approval. The applicant will also be responsible for procuring any necessary permits or approvals from the regulatory and resource agencies for the improvements. **3-3**

Improvement plans for construction within State Highway R/W must include the appropriate engineering information consistent with the state code and signed and stamped by a professional engineer registered in the State of California. The Department's Permit Manual contains a listing of typical information required for project plans. All design and construction must be in conformance with the Americans with Disabilities Act (ADA) requirements. **3-4**

Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (619) 688-6158. Early coordination with Caltrans is strongly advised for all encroachment permits. **3-5**

Ms. Lisa Coburn-Boyd
September 14, 2016
Page 2

Due to the close proximity of pipeline (P2451) in Otay Mesa, and State Route 11 / Otay Mesa East Port of Entry (POE) project under development, the contractors would need to coordinate with each other. Please coordinate with Caltrans for any potential conflicts with the development of the pipeline and the new POE.

Please contact the following:

Mario Orso, Caltrans Corridor Director
Phone: (619) 688-2561, Email: Mario.Orso@dot.ca.gov

and

Nicola Bernard, Caltrans Project and Design Manager
Phone: (619) 688-6708, Email: Nicola.Bernard@dot.ca.gov

3-6

If you have any questions on the comments Caltrans has provided, please contact Mark McCumsey of the Development Review Branch at (619) 688-6802 or email at Mark.McCumsey@dot.ca.gov.

3-7

Sincerely,

JACOB ARMSTRONG, Chief
Development Review Branch

Response to Letter 3

3-1 This comment is an introduction and does not address the adequacy of the environmental document; therefore, no response is necessary.

3-2 Comment noted. OWD will comply with Caltrans Encroachment Permit review and permitting where required.

3-3 Comment noted. OWD will comply with Caltrans Encroachment Permit application requirements.

3-4 Comment noted. Improvement plans will comply with state codes and information as required by the Department's Permit Manual will be included. OWD will comply with the American Disabilities Act (ADA) requirements.

3-5 Comment noted. OWD will comply with Caltrans Encroachment Permit review and permitting where required.

3-6 Comment noted. OWD will coordinate with Caltrans to reduce potential conflicts between the development of P2451 and the POE, as appropriate.

3-7 This comment is the conclusion statement for the letter does not address the adequacy of the environmental document; therefore, no response is necessary.

Letter 4 County of San Diego Planning & Development Services

County of San Diego

MARK WARDLAW
DIRECTOR
PHONE (858) 694-2962
FAX (858) 694-2555

PLANNING & DEVELOPMENT SERVICES
5510 OVERLAND AVENUE, SUITE 310, SAN DIEGO, CA 92123
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DARREN GRETLER
ASSISTANT DIRECTOR
PHONE (858) 694-2962
FAX (858) 694-2555

September 16, 2016

Ms. Lisa Coburn-Boyd
Otay Water District
2554 Sweetwater Springs Blvd.
Spring Valley, CA 91978

Via email to lisa.coburn-boyd@otaywater.gov

COMMENTS ON THE NOTICE OF AVAILABILITY FOR THE DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT FOR THE OTAY WATER DISTRICT 2015 WATER FACILITIES MASTER PLAN UPDATE

Dear Ms. Coburn-Boyd,

The County of San Diego (County) has reviewed the Notice of Availability for the Draft Program Environmental Impact Report (Draft PEIR) for the Otay Water District (OWD) 2015 Water Facilities Master Plan Update (WFMP) and appreciates this opportunity to provide input. County staff has completed their review and has the following comments regarding the proposed project. 4-1

WATERSHED PROTECTION

1. The project may generate impacts to storm water quality to private parcels located in the unincorporated county. The Draft PEIR should consider adding discussion about the project's approach/plan to be in conformance with the County of San Diego's Grading Ordinance, Watershed Protection Ordinance, Best Management Practices (BMP) Design Manual, and State of California's Construction General Permit. More specifically, the following is noted for consideration: 4-2

   a. Paragraph 4 of Section 4.7.2.3 states, "the current Watershed Protection, Stormwater Management, and Discharge Control Ordinance (WPO) and the Stormwater Standards Manual were adopted by the County Board of Supervisors in August 2003." The WPO has been updated and the current WPO was adopted by the County Board of Supervisors on January 27, 2016. The WPO and the County BMP Design Manual became effective on February 26, 2016. Please update the local regulatory framework discussion to reflect to most current WPO and the County BMP Design Manual.

Ms. Coburn-Boyd
September 16, 2016
Page 2 of 4

b. Section 4.7.3.1: Potential impacts and mitigation related to water quality do not include the minimum required BMPs identified in the WPO. Please incorporate permanent site design and source control BMPs in accordance with the WPO and County BMP Design Manual. Please include a description of the process that each individual project would follow to determine if Priority Development Project requirements (as detailed in WPO Section 67.810(b)) pertain to each individual project. Please consider including a Project Design Feature (as listed in 4.7.3.1) related to the implementation and maintenance of structural BMPs for the purpose of pollutant control and/or hydromodification management in accordance with the WPO and County BMP Design Manual. 4-3

c. Section 4.7.3.3: The Draft PEIR's discussion of potential impacts and mitigation related to Issue 3, Alteration of Drainage Patterns is limited to identifying that controls will be implemented to reduce the potential risk of flooding. However, current regulations incorporated into the WPO require that Priority Development Projects control flows to a pre-development condition. In addition to flood control requirements, please incorporate the current hydromodification management requirements into this section. 4-4

FLOOD CONTROL

1. Any proposed grading or development within a County- and/or FEMA-mapped floodway or floodplain will require close coordination with and review by County Flood Control. The project must ensure compliance with all requirements of the County's Flood Damage Prevention Ordinance and Federal FEMA Regulations. If the project proposes any alterations of the floodway or floodplain (e.g., changes to the water surface elevation or lines of inundation), this would require a County permit and Letter of Map Revision (CLOMR/LOMR) in accordance with FEMA Regulations and County Flood Damage Prevention Ordinance Section 811.503(b). 4-5

TRANSPORTATION/TRAFFIC

1. The Draft PEIR acknowledges that installation of pipelines in, under, or over any portion of county roadways would require an encroachment permit from the County. As such, any County-maintained roads that would be damaged or disturbed by the work permitted shall be repaired to the satisfaction of DPW's Private Development Construction Inspection and Road Maintenance sections. 4-6

PLANNING & DEVELOPMENT SERVICES

1. The Draft PEIR exhibits don't accurately show the extent of the unincorporated County projects. The associated legend area – "Area of Influence" indicated on the exhibits "Village 13" callout, is not the correct representation of the village(s). The County suggests that the notation "Village 13" be removed from all of the exhibits, including Figures and maps shown within the appendices. In order to reference the unincorporated county projects accurately, the County suggests that a new exhibit be included that shows the development areas of Villages 13, 14 & 15, as well as Planning Areas 16, 17 & 19. 4-7

Ms. Coburn-Boyd
September 16, 2016
Page 3 of 4

2. **Page 3-10, Section 3.4.1 Purpose**. This section only references, within the second paragraph, Villages 13 & 14 and Planning Area 17. However, in order to accurately represent the County unincorporated development areas, the Draft PEIR should reference Village 15 (Central Area) and Planning Areas 16 & 19 (Regulatory Area) as well. 4-8

3. **Page 4.9-1, Section 4.9.1.1, Potable Water Storage CIP Projects**. The County suggests that OWD expand upon the description of Village 14 which has a current development application. The OWD should work with the applicant in siting the new reservoir, access roadway, location of appurtenances and landscaping to minimize impacts. The County has the same suggestion on Page 4.9-2 for Village 13. 4-9

4. **Page 4.12-1, Section 4.12.1 Environmental Setting**. At the bottom of the second paragraph, the Program Draft EIR should expand on the County's development potential within Village 14 (residential, mixed use, commercial, parks, etc.), Planning Areas 16 & 19 (estate residential), as well as the easterly Planning Area 17 (estate residential). 4-10

5. **Page 5-6, Section 5.1 Cumulative Projects Identified in the 2015 WFMP Update**. The Regulatory System Cumulative Projects section does not accurately describe the Village 14 current development application. Both Village 13 & 14 represent considerable development potential as master planned communities. Planning Areas 16 & 19 are no longer being consider for open space dedication and could be proposed for estate residential. The County suggests that the development description be more general in nature (such as residential, mixed use, commercial, schools, parks, etc.) and that actual development footprints are under consideration at this time. This description would apply to both Villages 13 & 14 and Planning Areas 16, 17 & 19. 4-11

6. **Page 5-6, Section 5.1 Cumulative Projects Identified in the 2015 WFMP Update.** The Central Area System Cumulative Projects section needs to be expanded and incorporate the County's Planning & Development Services comment #5 above to accurately describe the development potentials for the unincorporated projects.

7. **Page 5-8, Section 5.1 Cumulative Projects Identified in the 2015 WFMP Update**. The Proctor Valley Parcel description does not consider the current development applications and is incorrectly using the outdated project numbers, units, population, parks, open space, etc. These three paragraphs should be revised. 4-12

8. **Page 5-8, Section 5.1 Cumulative Projects Identified in the 2015 WFMP Update**. The San Ysidro Mountain Parcel description for Village 15 should be revised to reflect that these parcels may not have recorded easements. Most of Village 15 has been purchased by third party entities for conservation or mitigation lands, which may not have recorded open space easements or conservation easements on the lands. 4-13

Ms. Coburn-Boyd
September 16, 2016
Page 4 of 4

9. **Page 5-9, Section 5.1 Cumulative Projects Identified in the 2015 WFMP Update.** The County of San Diego – South District for "Sunroad Technical Centre" project description is not current and is incorrectly using the outdated project numbers, units, open space, etc. County suggests confirming the project specifics. 4-14

10. **Page 5-11, Section 5.2 Cumulative Projects in the Unincorporated Portions of the WFNP Planning Area.** The Specific Plans/Specific Plan Amendments paragraph should be expanded to include the Specific Plans for Village 13 & 14 (current applications). 4-15

11. **Page 5-11, Section 5.2 Cumulative Projects in the Unincorporated Portions of the WFNP Planning Area.** Tables 5-5 and 5-6 are incorrectly using outdated (2008) project components, acreages and acres. The County suggests that these tables be updated to reflect the current project list and components. 4-16

The County looks forward to receiving future documents and/or notices related to the proposed project and providing additional assistance at your request. If you have any questions regarding these comments, please contact Danny Serrano, Land Use / Environmental Planner at (858) 694-3680, or via email at daniel.serrano@sdcounty.ca.gov. 4-17

Sincerely,

Joe Farace, Group Program Manager
Advance Planning Division
Planning & Development Services

Email cc:

Michael De La Rosa, Policy Advisor, Board of Supervisors, District 1
Adam Wilson, Policy Advisor, Board of Supervisors, District 2
Vince Kattoula, CAO Staff Officer, LUEG
Jeff Kashak, Planner, Department of Public Works
Gregory Mattson, Planner, Planning & Development Services

Response to Letter 4

4-1 This comment is an introduction to the letter and does not address the adequacy of the environmental document; therefore, no response is necessary.

4-2 Comment noted. Revision made as suggested to update County WPO to current adopted 2016 version and update SUSMP to the current BMP Design Manual.

4-3 Revision made to Section 4.7.3.1 "Project Design Features/Standard Construction Practices" as follows: "Additionally, CIP projects will incorporate permanent site design and source control BMPs in accordance with the County WPO and BMP Design Manual and conform to any applicable Priority Development Project requirements detailed in WPO Section 67.810(b)." Note: WPO Section 67.810(b) is not currently present in the publicly available version of the WPO on the County website (http://www.sandiegocounty.gov/dpw/watersheds/ordinance.html).

4-4 Comment noted. Current hydromodification management practices required by the County WPO will be implemented by OWD.

4-5 Comment noted. OWD will comply with all requirements of the County's Flood Damage Prevention Ordinance and Federal FEMA Regulations.

4-6 Comment noted. Requirements for Encroachment Permit application will be met and repairs to County-maintained roads damaged or disturbed as a result of the project will be completed to the satisfaction of County Department of Public Works Private Development Construction Inspection and Road Maintenance sections.

4-7 Comment noted. All PEIR exhibits with the callout "Village 13" have been removed to accurately display the "area of influence" in the project exhibits, including figures and maps.

4-8 In response to this comment, the PEIR text in Section 3.4.1 (Project Description, Water Facilities Master Plan, Purpose) has been revised to accurately represent the County unincorporated development areas.

4-9 Comment noted. OWD will work with the County and development applicants in siting potable water CIP projects within Village 13 and 14.

4-10 In response to this comment, the PEIR text in Section 4.12.1 (Transportation/Traffic, Environmental Setting) has been revised.

4-11 In response to this comment, Section 5.1 (Cumulative Projects) has been revised.

4-12 In response to this comment, the following PEIR text in Section 5.1 (Cumulative Projects, Proctor Valley Parcel) has been revised.

4-13 In response to this comment, Section 5.1 (Cumulative Projects, San Ysidro Mountain Parcel) has been revised.

4-14 In response to this comment, Section 5.1 (Cumulative Projects, Sunroad Technical Centre) has been revised.

4-15 In response to this comment, Section 5.2 (Cumulative Projects within the Unincorporated Portions of the WFMP Planning Area, Specific Plans/Specific Plan Amendments) has been revised.

4-16 Table 5-6 was consolidated into Table 5-5 to reflect projects both within and within the vicinity of the OWD planning area. Updates were made to cumulative projects as suggested by the County.

4-17 This comment is the conclusion statement for the letter does not address the adequacy of the environmental document; therefore, no response is necessary.

Letter 5 Metropolitan Water District

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

September 15, 2016 Via Email and Federal Express

Ms. Lisa Coburn-Boyd
Otay Water District
2554 Sweetwater Springs Blvd.
Spring Valley, California 91978

Dear Ms. Coburn-Boyd:

Notice of Availability of a Draft Program Environmental
Impact Report Otay Water District 2015 Water Facilities Master Plan Update

The Metropolitan Water District of Southern California (Metropolitan) has reviewed the Draft Program Environmental Impact Report (Draft PEIR) for the Otay Water District (OWD) 2015 Water Facilities Master Plan Update (WFMP). This letter contains Metropolitan's response to the Draft PEIR as a potentially affected public agency and responsible agency under the California Environmental Quality Act (CEQA).

Metropolitan is a public agency and regional water wholesaler. It is comprised of 26 member agencies serving approximately 18.7 million people in portions of six counties in Southern California, including San Diego County. Metropolitan's mission is to provide its 5,200 square mile service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way. 5-1

Otay is a member agency of the San Diego County Water Authority (SDCWA) and SDCWA is a member of Metropolitan. As a submember of Metropolitan, Otay receives imported water supplies from Metropolitan through SDCWA, and any annexation to Otay's service area requires concurrent annexation to SDCWA and Metropolitan. Thus, Metropolitan is a responsible agency under CEQA for any future changes in Otay service area, and is providing these comments in that capacity.

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Ms. Lisa Coburn-Boyd
Page 2
September 15, 2016

Metropolitan has reviewed the Draft PEIR, which seeks to update the OWD's 2015 WFMP by:

- Updating the planning criteria and the District's hydraulic system model to account for new development,
- Mapping out water and recycled water facility improvements to serve projected future conditions, **5-1 cont**
- Updating OWD's near-term and long-term new Capital Improvement Projects (CIP) based on new supply options and identified facility needs, and
- Identifying adaptive responses to changed conditions.

The Draft PEIR identifies areas of influence (AOI) not currently annexed to OWD, the San Diego County Water Authority (SDCWA) or Metropolitan. Section 3.4.1 states that "Consistent with the LAFCO AOI designation, the 2015 WFMP Update accounts for projected development within the AOI to the extent consistent with adopted land use plans and to the extent these lands are expected to annex into the OWD. These areas include the Otay Ranch Villages 13 and 14, and the San Ysidro Mountain Ranch/Planning Area 17 area. The AOI also includes the Sycuan Indian Reservation, located to the northeast of the OWD service boundary, but these lands are not included in the demand forecast." Metropolitan is concerned about the use of its supplies outside Metropolitan's Service.

Metropolitan is a responsible agency for the delivery and use of water in AOIs that would annex to Otay to receive water service. Metropolitan regularly annexes areas into its service area through the Local Agency Formation Commission (LAFCO) process under Metropolitan's Administrative Code section 3100, property adjacent to a member agency will require annexation prior to water being served. Section 3104(b) states, "water sold and delivered by the District shall not be used in any manner which intentionally or avoidably results in the direct or indirect benefit of areas outside of the District including use of such water outside the District or use thereof within in the District in substitution for other water used outside the District." Thus, any areas that receive water from Metropolitan served agencies must annex to Metropolitan and the local agency before water is served to them. **5-2**

On July 28, 2015, Metropolitan submitted a comment letter (see attached) for the Notice of Preparation requesting that the planning document include an assessment of the potential environmental impacts of annexation and the associated water requirements, infrastructure, water supplies, and mitigation of water volume usage. Upon review of the Draft PEIR, Metropolitan finds that its comment letter was not addressed in the Draft PEIR. Metropolitan asks that OWD assess the potential environmental impacts of annexation and the associated water requirements, infrastructure, water supplies, and mitigation of water volume usage. **5-3**

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Ms. Lisa Coburn-Boyd
Page 3
September 15, 2016

We appreciate the opportunity to provide input to your planning process and we look forward to receiving and reviewing all future environmental and related documentation for the Update to the 2015 WFMP and its implementation. If we can be of further assistance, please contact Ms. Malinda Stalvey at (213) 217-5545. **5-4**

Very truly yours,

for

W
Manager, Environmental Planning Team

MKS:mks
(EPT Job No. 20160815EXT)

Attachment: Otay NOP Comment Letter 072815

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

July 28, 2015

Via E-Mail and Federal Express

Ms. Lisa Coburn-Boyd
Otay Water District
2254 Sweetwater Springs Boulevard
Spring Valley, CA 91978-2004

Dear Ms. Coburn-Boyd:

Notice of Preparation of a Program Environmental Impact Report of the Otay Water District
Implementation of the 2015 Water Facilities Master Plan Update

The Metropolitan Water District of Southern California (Metropolitan) has reviewed the Notice of Preparation (NOP) of a Draft Program Environmental Impact Report (PEIR) to assess the environmental effects associated with the Otay Water District (OWD) implementation of the 2015 Water Facilities Master Plan Update (Master Plan). This letter contains Metropolitan's response to the NOP as a potentially affected public agency and responsible agency under the California Environmental Quality Act (CEQA).

According to the NOP, the Master Plan is intended to complement existing, approved land use development plans and growth projections within the OWD service area and adjacent areas of influence, consistent with the San Diego Association of Governments (SANDAG) forecasts. The Master Plan will identify proposed potable and recycled water Capital Improvement Program (CIP) facilities (e.g., pump stations, storage reservoirs, transmission mains), and associated probable cost estimates, to meet project water market demands within the OWD planning area and the identified area of influence through the Year 2050.

Because the identified area of influence is not currently annexed to OWD, the San Diego County Water Authority (SDCWA) or Metropolitan, Metropolitan is concerned about use of its supplies in these areas outside Metropolitan's Service Area. This planning document should include annexation of adjacent areas of influence, consistent with SANDAG's forecasts, before water is supplied to these areas. The Draft PEIR should assess the potential environmental impacts of annexation and the associated water requirements, infrastructure, water supplies, and mitigation of water volume usage.

We appreciate the opportunity to provide input to your planning process and we look forward to receiving and reviewing the Draft PEIR as well as all future environmental and related

Ms. Coburn-Boyd
Page 2
July 28, 2015

documentation on this project. If we can be of further assistance, please contact Ms. Vikki Dee Bradshaw at (213) 217-6028.

Very truly yours,

Deborah Drezner
Interim Manager, Environmental Planning Team

VDB:vdb

J:\EnvironmentalPlanning&Compliance\COMPLETEDJOBS\July2015\EPTJobNo.20150711EXT

Response to Letter 5

5-1 This comment is an introduction and does not address the adequacy of the environmental document; therefore, no response is necessary.

5-2 The comment identifies the Area of Influence (AOI) that is neither currently annexed to the Otay Water District (OWD) and nor receives water from the OWD. The comment identifies that an area that receives water from MWD-served agencies (such as OWD) must annex to both MWD and the OWD, and the process of annexation must go through the Local Agency Formation Commission (LAFCO) annexation process. Comment noted.

5-3 The comment identifies a MWD comment letter submitted subsequent to the project's Notice of Preparation. In regards to potential future OWD-service of water to the AOI, which could only occur after annexation through the LAFCO process identified in comment 4-2, MWD requests that OWD, "assess the potential environmental impacts of annexation and the associated water requirements, infrastructure, water supplies, and mitigation of water volume usage."

Annexation of land within the AOI is not a component of the proposed project (the Water Facilities Master Plan). Per CEQA Guidelines Section 15064 (d):

> (d) In evaluating the significance of the environmental effect of a project, the Lead Agency shall consider direct physical changes in the environment which may be caused by the project and **reasonably foreseeable indirect physical changes in the environment which may be caused by the project**. *(emphasis added)*
>
> (1) A direct physical change in the environment is a physical change in the environment which is caused by and immediately related to the project. Examples of direct physical changes in the environment are the dust, noise, and traffic of heavy equipment that would result from construction of a sewage treatment plant and possible odors from operation of the plant.
>
> (2) An indirect physical change in the environment is a physical change in the environment which is not immediately related to the project, but which is caused indirectly by the project. If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect physical change in the environment. For example, the construction of a new sewage treatment plant may facilitate population growth in the service area due to the increase in sewage treatment capacity and may lead to an increase in air pollution.
>
> (3) An indirect physical change is to be considered only if that change is a reasonably foreseeable impact which may be caused by the project. A change which is speculative or unlikely to occur is not reasonably foreseeable.

The project is to revise the OWD 2009 WRMP; update planning criteria and OWD's hydraulic system models; map out water and recycled water facility improvements; update OWD's CIP; and identify adaptive responses to changed conditions. The WFMP's forecast is based on the latest regional growth forecasts developed by the San Diego Association of Governments (SANDAG), and is consistent with the adopted land use plans of all jurisdictions within the district boundaries. The environmental document prepared is a Program Environmental Impact Report (PEIR). The PEIR analyzes proposed (near-term; Phase II) and subsequent (long-term; Phase III) activities associated with implementation of the 2015 WFMP Update. Annexation of the land within the

AOI is not proposed as part of this project. Annexation of land within the AOI would not be caused indirectly by the project. Finally, annexation of land within the AOI is not a reasonably foreseeable impact which may be caused by the project. Therefore, assessing the potential environmental impacts of annexation is not required or warranted in the project's PEIR.

Furthermore, because the project does not include or indirectly cause annexation, or include any water infrastructure or supply use associated with such activity, attempting to assess potential future environmental impacts of annexation would be speculative. Per CEQA Guidelines Section 15064, speculation shall not constitute substantial evidence under CEQA; the decision as to whether a project may have one or more significant effects shall be based on substantial evidence in the record of the lead agency.

As provided in comment 4-2, annexation proposals must go through the LAFCO process. Part of LAFCO's process includes CEQA review. The appropriate time to analyze potential direct and indirect environmental effects of annexation of lands within the AOI to OWD is at such time that annexation is proposed.

5-4 This comment is the conclusion statement for the letter and does not address the adequacy of the environmental document; therefore, no response is necessary.

Letter 6 San Diego Association of Governments (SANDAG)

401 B Street, Suite 800
San Diego, CA 92101-4231
(619) 699-1900
Fax (619) 699-1905
sandag.org

MEMBER AGENCIES
Cities of
Carlsbad
Chula Vista
Coronado
Del Mar
El Cajon
Encinitas
Escondido
Imperial Beach
La Mesa
Lemon Grove
National City
Oceanside
Poway
San Diego
San Marcos
Santee
Solana Beach
Vista
and
County of San Diego

ADVISORY MEMBERS
Imperial County
California Department of Transportation
Metropolitan Transit System
North County Transit District
United States Department of Defense
San Diego Unified Port District
San Diego County Water Authority
Southern California Tribal Chairmen's Association
Mexico

September 15, 2016 File Number: 3300300

Ms. Lisa Coburn-Boyd
Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley, CA 91978

Dear Ms. Coburn-Boyd:

SUBJECT: Otay Water District 2015 Water Facilities Master Plan Update Draft Program Environmental Impact Report

Thank you for the opportunity to comment on the Otay Water District 2015 Water Facilities Master Plan (WFMP) Update Draft Program Environmental Impact Report (PEIR). The San Diego Association of Governments (SANDAG) comments are submitted from a regional perspective based on policies included in San Diego Forward: The Regional Plan (Regional Plan) that emphasize the need for better land use and transportation coordination. These policies will help provide people with more travel and housing choices, protect the environment, create healthy communities, and stimulate economic growth. SANDAG has a few minor comments on the PEIR, outlined below: 6-1

- Throughout the document, please replace any reference to the 2050 Regional Transportation Plan and its Sustainable Communities Strategy with San Diego Forward: The Regional Plan. This Regional Plan was adopted on October 9, 2015, and is the most recent Regional Plan. 6-2

- Pages 4.8-11 and 4.8-12: Due to the close proximity of pipeline P2451 and the State Route 11 (SR-11)/Otay Mesa East Port of Entry (POE) Project under development, please work with SANDAG and Caltrans project managers for any potential conflicts with the development of the pipeline and the new POE. The contact information is below: 6-3

  Christina Casgar, SANDAG Goods Movement Policy Manager
  (619) 699-1982, christina.casgar@sandag.org

  Mario Orso, Caltrans Corridor Director
  (619) 688-2561, mario.orso@dot.ca.gov

- Page 4.10-3: Please include SR-11 in the Roadways section. Segment 1 opened to traffic in early 2016. 6-4

- Page 4.10-3: Please consider including the Cross Border Xpress (CBX) facility in the Aviation section. The CBX facility is a hybrid air/land POE led by a joint public-private partnership connecting the San Diego region to the Tijuana International Airport via an enclosed pedestrian bridge that 6-5

spans from north to south over the U.S./Mexico border. Ticketed airline passengers are able to use the facility for a fee. **6-5 cont**

- Page 4.12-2: Please update the Statewide Transportation Improvement Program (STIP) section with the most recent 2016 STIP, approved by the California Transportation Commission in January 2016. **6-6**

- Page 4.12-3: Please update the Regional Transportation Improvement Program (RTIP) section to reflect the 2016 RTIP. At the meeting on September 23, 2016, the SANDAG Board of Directors will be asked to adopt the final 2016 RTIP. SANDAG anticipates a federal approval date in December 2016. **6-7**

- Page 5-5: Please update Table 5-4 to reflect projects from the Regional Plan. **6-8**

Other Considerations

SANDAG has a number of resources that can be used as plans or as resources for additional information or clarification on topics discussed in this letter. These can be found on our website at sandag.org/igr.

When available, please send any additional environmental documents related to this project to:

Intergovernmental Review **6-9**
c/o SANDAG
401 B Street, Suite 800
San Diego, CA 92101

We appreciate the opportunity to comment on the Otay Water District 2015 WFMP Update Draft PEIR. If you have any questions, please contact me at (619) 699-1943 or via email at susan.baldwin@sandag.org.

Sincerely,

Susan B. Baldwin

SUSAN B. BALDWIN, AICP
Senior Regional Planner

KHE/hbr

Response to Letter 6

6-1 This comment is an introduction to the letter and does not address the adequacy of the environmental document; therefore, no response is necessary.

6-2 The comment identifies an update to the Regional Plan name. The correction has been made in the Final EIR in the following locations:

Chapter 4.6, Global Climate Change, page 4.6-10
Chapter 4.12, Transportation/Traffic, page 4.12-3
Chapter 5, Cumulative, page 5-4

6-3 Refer to response to comment 3-3. OWD will work to coordinate with both SANDAG and Caltrans to reduce potential conflicts between the development of P2451 and the POE, as appropriate.

6-4 This comment recommends a minor text addition to Chapter 4.10, Noise. The recommended edit has been completed in Section 4.10.1.3, page 4.10-3 of the Final EIR.

6-5 This comment recommends a minor text addition to Chapter 4.10, Noise. Comment noted, however, text was not revised. The CBX facility, while related to aviation use, is not an additional source of noise within the OWD service area vicinity.

6-6 This comment recommends a minor text addition to Chapter 4.12, Transportation/Traffic. The recommended edit has been completed in Section 4.12.2.2, page 4.12-2 of the Final EIR.

6-7 This comment recommends a minor text addition to Chapter 4.12, Transportation/Traffic. The recommended edit has been completed in Section 4.12.2.2, page 4.12-3 of the Final EIR.

6-8 This comment requests that Table 5-4, which provides a listing of transit and transportation projects, be updated to reflect projects from the Regional Plan. Refer to Response to Comment 6-2. Table 5-4 has been revised as requested.

6-9 This comment is the conclusion statement for the letter and does not address the adequacy of the environmental document; therefore, no response is necessary.

Letter 7 San Diego County Archaeological Society (SDCAS)

San Diego County Archaeological Society, Inc.

Environmental Review Committee

8 September 2016

To: Ms. Lisa Coburn-Boyd
Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley, California 91978-2004

Subject: Draft Program Environmental Impact Report
2015 Water Facilities Master Plan Update

Dear Ms. Coburn-Boyd:

I have reviewed the cultural resources aspects of the subject DPEIR on behalf of this committee of the San Diego County Archaeological Society. 7-1

Based on the information contained in the DPEIR, we have the following comments: 7-2

1. As an editorial comment, page 4.3-9 should refer to the "San Diego County Historic Site Board", not "Historic Sites Board".
2. Section 4.3.3.1, for Historical Resources (i.e., built environment), provides as mitigation measures Cul-PDF-1 and Cul-PDF-2. Table S-1on page S-10, should repeat those two mitigation measures. The wording in S-1 speaks of reducing impacts but fails to state how. 7-3

Other than the above, we concur with the impact analysis and mitigation measures as included in the DPEIR. 7-4

SDCAS appreciates being included in the District's environmental review process for this project.

Sincerely,

James W. Royle, Jr., Chairperson
Environmental Review Committee

cc: Atkins
SDCAS President
File

Response to Letter 7

7-1 This comment is an introduction to the letter and does not address the adequacy of the environmental document; therefore, no response is necessary.

7-2 This comment requests an editorial edit to correct text reference to the San Diego County Historic Site Board. The text on page 4.3-9 of the Final EIR has been corrected. No additional response is necessary.

7-3 This comment recommends identifying measures Cul-PDF-1 and Cul-PDF-2 in Table S-1 in the PEIR Summary chapter. The text on page S-11 of the Final EIR has been amended to refer to Cul-PDF-1 and Cul-PDF-2, consistent with the impact assessment in Chapter 4.3, Cultural Resources.

7-4 This comment is the conclusion statement for the letter and does not address the adequacy of the environmental document; therefore, no response is necessary.

Letter 8 Jackson Pendo Development

jackson · pendo
DEVELOPMENT

September 15, 2016

Ms. Lisa Coburn-Boyd
Otay Water District
2554 Sweetwater Springs Blvd.
Spring Valley, CA 91978

Dear Ms. Coburn-Boyd

Jackson Pendo Development Company ("JPDC"), through an affiliated partnership, is the owner of approximately 1,200 acres of land located in portions of Otay Ranch Village 14 and Planning Areas 16 and 19. The property is located in Proctor Valley between the City of Chula Vista and the community of Jamul. It is situated entirely in the unincorporated County of San Diego and entirely within the boundaries of the Otay Water District ("OWD"). JPDC appreciates this opportunity to comment on the draft Program Environmental Impact Report (PEIR) for OWD's 2015 Water Facilities Master Plan ("WFMP"). 8-1

Most importantly, it appears that the PEIR may be making some incorrect assumptions with regard to the entitlement status of the JPDC project that are important to clarify. As noted above, our 1,200-acre property is located in portions of Village 14 and Planning Areas 16 and 19 of the Otay Ranch master planned community. Both the City of Chula Vista and the County of San Diego approved the Otay Ranch project – including Village 14 and Planning Areas 16 and 19 – in the Otay Ranch General Development Plan/Subregional Plan (GDP/SRP) in 1993. Since that original GDP/SRP approval, land use entitlements for Village 14 and Planning Areas 16 and 19 – including unit counts and densities – have been reaffirmed by the County in the County's MSCP Subarea Plan in 1997 and, again, in the County's GP 2020 effort to update its General Plan in 2011. 8-2

JPDC anticipates submitting an application within the next month for a project that is entirely consistent with the existing Otay Ranch GDP/SRP for portions of Village 14 and Planning Areas 16 and 19. That is the project that is already adopted in the County's general plan and, as such, should be assumed into the baseline assumptions of OWD's PEIR and WFMP. As required by CEQA, the environmental impact report for the JPDC project application will include a range of reasonable project alternatives. One of those alternatives, which we have discussed with OWD staff, assumes that a land exchange will be implemented between JPDC and the State of California enabling JPDC to consolidate development entirely in Village 14 and eliminate approved development in Planning Areas 16 and 19. But that is not the proposed or currently adopted project, it is only an anticipated CEQA alternative. 8-3

Our concern with the language and Figures in the PEIR is that they appear to use JPDC's potential CEQA alternative as the baseline project rather than assuming the existing approval already adopted in the Otay Ranch GDP/SRP and the County's General Plan. Paragraph 3.4.1 of the PEIR, for example, indicates that the WFMP accounts for "projected development...to the extent consistent with adopted land use plans," but then goes on to refer only to Village 14 without any reference to Planning Areas 16 and 19. More significantly, at page 5-6 of the PEIR, Section 5.1 entitled "Regulatory System Cumulative Projects" describes the anticipated Village 14 project alternative rather than the actual project in its list of cumulative projects. The description assumes that development is eliminated in Planning Areas 16 and 19, but that would only occur if the anticipated alternative were approved. JPDC's actual project application and the County's adopted GDP/SRP and General Plan *include* development in Planning Areas 16 and 19 in addition to Village 14. 8-4

There are a number of places in the draft PEIR that appear either to assume there is no development in Planning Areas 16 and 19 or fail to properly reference the Village 14 and Planning Area 16 and 19 adopted approvals. For example: 8-5

- Figures 3-2 and 3-2c, and Tables 3-2 and 3-4, appear to assume Capital Improvement Projects that focus only on Village 14 without any reference to projects in Planning Areas 16 and 19.
- Page 4.12-1, Section 4.12-1 at the bottom of the second paragraph only refers to Otay Ranch Village 13. We believe Village 14 and Planning Areas 16 and 19 should also be referenced. 8-6
- Page 5-8, Section 5.1 under the Proctor Valley Parcel appears to include reference to Planning Areas 16 and 19 in addition to Village 14, but the total number of units differs from the number of units approved in the adopted GDP/SRP and General Plan. 8-7
- Page 5-11, Section 5.2 includes a list of projects that need specific plans or specific plan amendments. We believe Village 14 and Planning Areas 16 and 19, which still need specific plan approval, should be included in this list. 8-8
- Page 5-11, Tables 5-5 and 5-6 show anticipated projects in the unincorporated territory. We believe Village 14 and Planning Areas 16 and 19 should be included in this list. 8-9

In short, the language throughout the PEIR appears to assume that development in Otay Ranch Planning Areas 16 and 19 has been eliminated when, in fact, the adopted GDP/SRP, the County's MSCP Subarea Plan, the County General Plan and the application that will soon be submitted by JPDC, all anticipate development. Furthermore, portions of Village 14 and Planning Areas 16 are owned by the State of California. While these lands are currently being operated as a reserve, the underlying Otay Ranch GDP/SRP, the County's MSCP Subarea Plan and the County 8-10

General Plan identify residential land uses which should be analyzed. There are combined up to 2,123 homes in the Otay Ranch GDP/SRP planned in Village 14 and in Panning Areas 16 and 19. This apparent error should be corrected. 8-10 cont

In addition, with regard specifically to Village 14, the PEIR appears to identify two new reservoirs as capital improvement projects – one at the 980-pressure level and the other at the 1296-pressure level. In our conversations with OWD staff we were informed that OWD might need one or the other of these reservoirs, but would not need both. We would appreciate confirmation of this position. Additionally, Table 3-2 indicates that the two new reservoirs would be "co-located." This is physically impossible. The proposed sites for the reservoirs are located at entirely different elevations and entirely different locations within Village 14. Neither location includes sufficient space for a second reservoir. 8-11

Again, we appreciate the opportunity to comment on the PEIR. It is obviously important that the PEIR and WFMP accurately assume the existing, adopted land uses for the JPDC project in Otay Ranch Village 14 and Planning Areas 16 and 19 in order to appropriately analyze the potential impacts of the WFMP. 8-12

Should you have any questions or concerns, or need additional information, please to do not hesitate to call Rob Cameron at 619-980-4979. 8-13

Sincerely,

Rob Cameron

Rob Cameron
Jackson Pendo Development Company

Response to Letter 8

8-1 This comment is an introduction to the letter and does not address the adequacy of the environmental document; therefore, no response is necessary.

8-2 Comment noted. Background information regarding Village 14 and Planning Areas 16 and 19. No response necessary.

8-3 Comment noted. Background information regarding Village 14 and Planning Areas 16 and 19. No response necessary.

8-4 See response above in Comment 4-11. No further response necessary.

8-5 Comment noted. There is no intent in the PEIR of focusing on CIP projects in Village 14 or Planning Areas 16 and 19. No revisions are necessary.

8-6 See response above in Comment 4-10. Villages and Planning Areas have been removed from the text.

8-7 See response above in Comment 4-12. Dwelling unit numbers have been revised per the County of San Diego.

8-8 See response above in Comment 4-15. Text has been revised to include Village 14. Planning Areas 16 and 19 will also be added to the text.

8-9 Comment noted. Village 14 and Planning Areas 16 and 19 will be included in Table 5-5.

8-10 Comment noted. Refer to response to Comments 4-12 and 8-7 above regarding dwelling unit corrections.

8-11 Comment noted. Siting and dimensions for all CIP projects discussed in this PEIR will be analyzed further during final design.

8-12 Comment noted. No response necessary.

8-13 This comment is the conclusion statement for the letter and does not address the adequacy of the environmental document; therefore, no response is necessary.

EXECUTIVE SUMMARY

This chapter is an executive summary of the Program Environmental Impact Report (PEIR) for the implementation of the Otay Water District (OWD) 2015 Water Facilities Master Plan (WFMP) Update. This chapter highlights the major areas of importance in the environmental analysis for the 2015 WFMP Update. Provided is a brief description of the 2015 WFMP Update, project objectives, and alternatives. In addition, this chapter provides tables summarizing: 1) the direct and cumulative impacts that would occur from implementation of the 2015 WFMP Update; 2) the level of impact significance before mitigation; 3) the recommended mitigation measures that would avoid or reduce significant environmental impacts; and 4) the level of impact significance after mitigation measures are implemented.

Overview

This PEIR has been prepared in compliance with the procedural and substantive requirements of CEQA (Public Resources Section 21000, et seq.) and the State of California CEQA Guidelines (California Code of Regulations, Section 15000 et seq.) to address the potential environmental impacts resulting from implementation of the OWD 2015 WFMP Update.

As required by CEQA, this PEIR: 1) assesses the potentially significant direct, indirect, and cumulative environmental effects of the 2015 WFMP Update; 2) identifies potential feasible means of avoiding or substantially lessening significant adverse impacts; and 3) evaluates a range of reasonable alternatives to the 2015 WFMP Update, including the required No Project Alternative.

Pursuant to CEQA Guidelines, this PEIR evaluates the effects of the entire 2015 WFMP Update at a program level. This PEIR will be used by the OWD to evaluate the environmental implications of adopting the 2015 WFMP Update. Once certified, this PEIR would also be used to tier subsequent environmental analyses for future OWD development projects. OWD is the Lead Agency for the preparation of this PEIR, as defined in CEQA Guidelines §15367, and has the principal responsibility for certifying the PEIR and approving the 2015 WFMP Update.

Project Description

The purpose of the 2015 WFMP Update is to revise the OWD 2009 WRMP; update planning criteria and OWD's hydraulic system models; map out water and recycled water facility improvements; update OWD's Capital Improvement Program (CIP) projects; and identify adaptive responses to changed conditions. To do this, the 2015 WFMP Update identifies the necessary potable and recycled water CIP facilities, associated probable cost estimates, and develops a phased approach to implement the CIP projects. The CIP projects identified in the 2015 WFMP Update will ensure an adequate, reliable, flexible, and cost effective potable and recycled water delivery system.

Phasing and timing for the recommended CIP projects may be accelerated or deferred as required to account for changes in development project schedules, availability of land or right-of-way for construction, project funding limitations, environmental concerns or other considerations. The following time frames were identified for the potable water projects: 2015-2016 (Phase I), 2017-2022 (Phase II), and 2023-2050 (Phases IIIA and IIIB). The following time frames were identified for the recycled water projects: Phase I (Present-2026), and Phases IIA, B, and C (2027-Ultimate).

The WFMP's forecast is based on the latest regional growth forecasts developed by the San Diego Association of Governments (SANDAG), and is consistent with the adopted land use plans of all jurisdictions within the district boundaries. OWD coordinates with these jurisdictions through its development of Urban Water Management Plans, and through other ongoing coordination to ensure land use plans account for the availability of water supplies and water service infrastructure. Consistent with the LAFCO Area of Influence (AOI) designation, the 2015 WFMP Update accounts for projected development within the AOI to the extent consistent with adopted land use plans and to the extent these lands are expected to annex into the OWD. The AOI includes the Sycuan Indian Reservation, located to the northeast of the OWD service boundary, but these lands are not included in the demand forecast.

The CIP projects identified in the 2015 WFMP Update and evaluated in this PEIR (refer to Section 3.4.4, Description of Projects, of this PEIR) can be classified into five general categories: storage, pump station, pipeline, water supply, and miscellaneous CIP projects.

Project Goals

The primary goals and objectives for the 2015 WFMP Update include the following actions:

- **Update Planning Criteria and the District's Hydraulic System Models**: Review and update, as necessary, the District's system performance criteria, and update the District's InfoWater system hydraulic models to account for new development and to maintain integration with the District's GIS system.
- **Map Out Water and Recycled Water Facility Improvements:** Identify and prioritize the District's facility needs, including transmission, storage, and pumping facilities, to serve projected future conditions.
- **Update OWD CIP:** Update the District's near-term (2020) and long-term (2050) CIP, based on a new demand forecast, new supply options and identified facility needs.
- **Identify Adaptive Responses to Changed Conditions:** Identify how needed facility improvements and CIP items would change should future demand and supply conditions vary from baseline assumptions.

Impact Summary

This PEIR examines the potential environmental effects from implementation of the 2015 WFMP Update, including information related to existing site conditions, analyses of the types and magnitude of individual and cumulative environmental impacts, and feasible mitigation measures that could reduce or avoid environmental impacts. In accordance with Appendix G of the CEQA Guidelines, the potential environmental effects of the 2015 WFMP Update are analyzed for the following issue areas:

- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology, Soils, and Paleontological Resources
- Global Climate Change
- Hydrology and Water Quality
- Landform Alteration and Visual Quality
- Land Use and Planning
- Noise
- Public Safety
- Transportation/Traffic

Tables S-1 and S-2, presented at the end of this chapter, provide summaries of the environmental impacts that could result from implementation of the 2015 WFMP Update and feasible mitigation measures that could reduce or avoid environmental impacts. For each impact, Tables S-1 and S-2 identify the significance of the impact before mitigation, applicable mitigation measures, and the level of significance of the impact after the implementation of the mitigation measures.

Impacts to Agricultural Resources and Mineral Resources are considered to be "Effects Found Not to be Significant," according to Section 15128 of the CEQA Guidelines. Population and Housing, Public Services, Recreation, and Utilities and Service Systems were not analyzed in Chapter 4 of this PEIR because they are not applicable to the 2015 WFMP Update. The rationale for these conclusions are given in Chapter 6 of this PEIR.

Alternatives to the 2015 WFMP Update

The following alternatives are analyzed in detail in Chapter 7 (Alternatives) of this PEIR. The objective of the alternatives analysis is to consider a reasonable range of potentially feasible alternatives to foster informed decision-making and public participation. The 2015 WFMP Update alternatives include:

- **No Project Alternative.** Under the "no project" alternative, the OWD Board of Directors would not adopt the 2015 WFMP Update.
- **Reduced Footprint Alternative.** This alternative would reduce the size and capacity of several CIP projects located within sensitive biological resources.

CEQA Guidelines Section 15126.6(e)(2) requires that an EIR identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. The No Project Alternative would avoid all potentially significant environmental impacts identified for the 2015 WFMP Update. However, this alternative would not preclude implementation of some, if not all, of the CIP projects on an individual basis. In addition, this alternative would not meet any of the objectives of the 2015 WFMP Update.

CEQA Guidelines Section 15126.6(e)(2) also requires that an EIR identify another alternative as environmentally superior, besides the No Project Alternative. In this case, the next environmentally superior alternative would be the Reduced Footprint Alternative, which would reduce, but not completely eliminate, potential impacts to air quality, biological, and cultural resources. However, this alternative would only achieve four of the stated objectives of the 2015 WFMP Update.

Areas of Controversy/Issues of Concern

Section 15123 of the CEQA Guidelines requires the identification of any areas of controversy known to the Lead Agency including issues raised by other agencies and the public. In accordance with CEQA Guidelines, the OWD prepared a Notice of Preparation (NOP) for this PEIR. The NOP was circulated to

public agencies and other interested parties to solicit comments on the scope of the PEIR. A public scoping meeting was held at the OWD on July 14, 2015. Six comment letters were received from public agencies and one from a property owner association during the NOP public scoping period. However, no other known areas of controversy were identified in response to the NOP or at the public scoping meeting. Appendix A of this PEIR includes the written comments received during the NOP public review period. See also Section 1.3 of the PEIR for further details regarding the NOP public scoping process.

Table S-1	Project Level Environmental Impacts and Mitigation Measures			
Issue	**Impacts**	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
4.1 Air Quality				
Obstruction of implementation of the applicable air quality plan	Growth assumptions made within the 2015 WFMP Update to determine future service requirements have already been accounted for within the 2009 SDAPCD RAQS and 2007 SIP; therefore, the 2015 WFMP Update would not conflict with or obstruct implementation of the applicable air quality plan.	LS	No mitigation is required.	LS
Consistency with Air Quality Standards	Implementation of standard construction practices (Air-SCP-1 and Air-SCP-2) would minimize air pollutant emissions from construction activities. However, as the details regarding number and type of construction equipment are unknown at this time, emissions may result in a violation of air quality standards, and therefore construction impacts are considered potentially significant. Once constructed, operational sources of air pollutants from the CIP projects would be less than significant.	PS	Air-1 An air quality technical study shall be prepared for each CIP once the project reaches the design stage to determine whether potential air pollutant emissions associated with construction activities are less than the screening thresholds established by the SDAPCD. The air quality technical study shall include an air pollutant emissions inventory for the CIP under design, as well as emissions for all other designed CIPs that would undertake construction within the same timeframe. All recommendations and measures identified in the air quality technical study to ensure that air pollutant emissions remain within established thresholds shall be incorporated by the Otay Water District prior to any groundbreaking activities associated with the project.	LS
4.2 Biological Resources				
Candidate, Sensitive, or Special Status Species	Implementation of the 2015 WFMP Update would result in direct impacts to sensitive plant and animal species.	PS	Bio-1A During the design phase, OWD shall retain a qualified biologist to conduct biological surveys as part of the "tiered" CEQA documentation for these projects, following the program described in Section 1.2 (Intended Use and Purpose) of this PEIR. Bio-1B If the biological surveys identified in performance measure Bio-1A determine the presence of special-status species and/or sensitive or critical habitats on or adjacent to the CIP site, then OWD shall map and quantify the impacts in a Biological Technical Report as part of the "tiered" CEQA documentation referenced in Bio-1A. Detailed project-specific avoidance and mitigation measures for significant impacts to biological resources shall be negotiated between OWD and the regulatory agencies, as part of the approval and certification process for the subsequent CEQA documentation. In addition, the following measures shall be implemented, as applicable:	LS

Table S-1 Project Level Environmental Impacts and Mitigation Measures

Issue	Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
			i. Six (6) weeks prior to vegetation clearing, grading and/or construction activities that are scheduled to occur between February 15 and August 30, a qualified biologist shall commence focused surveys in accordance with USFWS protocols to determine the presence or absence of the California gnatcatcher. Documentation of the survey results shall be provided to OWD and USFWS within 45 days of completing the final survey, as required pursuant to FESA Section 10(a)(1)(A). If the survey results are negative, then no further mitigation for California gnatcatcher is necessary and vegetation clearing can occur at any time in the year following the survey; only mitigation for the habitat loss shall be required (refer to Bio-1B(iv) below). If surveyed habitat is determined to be occupied by California gnatcatcher, then the following measures shall be implemented: a. Coastal sage scrub/gnatcatcher habitat shall not be removed during the gnatcatcher breeding season (February 15 through August 30). Work that has commenced prior to the breeding season shall be allowed to continue without interruption. If gnatcatchers move into an area within 500 feet of ongoing construction noise levels and attempt to nest, then it can be deduced that the noise is not great enough to discourage gnatcatcher nesting activities. If work begins prior to the breeding season, the contractor(s) should maintain continuous construction activities adjacent to coastal sage scrub that falls within 500 feet, until the work is completed. However, if clearing, grading and/or construction activities are scheduled to begin during the gnatcatcher breeding season, then updated pre-construction surveys are necessary as defined above. In addition, if these activities are initiated prior to, and extend into, the breeding season, but they cease for any period of time and the contractor wishes to restart work within the breeding season window, then updated pre-construction surveys are also necessary. If these surveys indicate no nesting birds occur within the coastal sage scrub that falls within 500 feet of the proposed work, then the adjacent construction activities shall be allowed to commence. However, if the birds are observed nesting within these areas, then the adjacent construction activities shall be postponed until all nesting has ceased.	

Table S-1	Project Level Environmental Impacts and Mitigation Measures			
Issue	**Impacts**	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
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			b. Noise monitoring shall be conducted if construction activities are scheduled during the gnatcatcher breeding season; if the construction-related noise levels would exceed 60 dB Leq (i.e., the noise threshold suggested by the USFWS for indirect impacts to gnatcatcher); and if gnatcatchers are found within 500 feet of the noise source. Noise monitoring shall be conducted by a biologist experienced in both the vocalization and appearance of California gnatcatcher, and in the use of noise meters. Construction activities that generate noise levels over 60 dB Leq may be permitted within 300 feet of occupied habitat if methods are employed that reduce the noise levels to below 60 dB Leq at the boundary of occupied habitat (e.g., temporary noise attenuation barriers or use of alternative equipment). During construction activities, daily testing of noise levels shall be conducted by a noise monitor with the help of the biologist to ensure that a noise level of 60 dB Leq at the boundary of occupied habitat is not exceeded. Documentation of the noise monitoring results shall be provided to OWD and USFWS within 45 days of completing the final noise monitoring event. ii. Ten (10) days prior to vegetation clearing, grading and/or construction activities that are scheduled to occur between February 1 and August 15, surveys for nesting bird species other than the California gnatcatcher, including those protected by the MBTA, shall be conducted by a qualified biologist following applicable USFWS and/or CDFW guidelines. If no active avian nests are identified within the disturbance limits, then no further mitigation is necessary. However, if active nests for avian species of concern are found within the disturbance limits, then ~~species-specific~~ measures prescribed by the MBTA shall be implemented by a qualified biologist; a minimum buffer of 300 feet for passerine and 500 feet for raptor species will be incorporated in order to minimize potential disturbances to nesting birds from construction activities. Documentation of the mitigation measures shall be provided to OWD and USFWS within 10 days after implementation.	

Table S-1 Project Level Environmental Impacts and Mitigation Measures

Issue	Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
			iii. Ten (10) days prior to vegetation clearing, grading and/or construction activities that are scheduled to occur during the raptor nesting season (generally January 15 through July 31), and where suitable trees (such as Eucalyptus spp.) for raptor nesting occur within 500 feet of such activities, pre-construction surveys for raptor nests shall be performed by a qualified biologist. If no occupied raptor nests are identified in suitable trees on or within 500 feet of the construction site, then no further mitigation is necessary. Construction activities within 500 feet of occupied nests shall not be allowed during the raptor breeding season until a qualified biologist determines that the nests are no longer active. Documentation of the raptor surveys and any follow-up monitoring, as necessary, shall be provided to OWD and USFWS within 10 days of completing the final survey or monitoring event. iv. For CIPs that would affect non-listed sensitive species and sensitive vegetation communities, the measures listed below shall be implemented prior to vegetation clearing, grading and/or construction activities. In addition, applicable regulatory agency permits and/or authorizations shall be obtained for CIPs that would affect federal and state-listed species, and the conditions of such permits and/or authorizations shall be implemented prior to vegetation clearing, grading and/or construction activities. a. Special-status species (and any corresponding USFWS-designated critical habitats), sensitive vegetation communities and MSCP resources shall be avoided through project design or site selection, to the extent practicable. b. For unavoidable impacts to special-status species (and any corresponding USFWS-designated critical habitats), sensitive vegetation communities and MSCP resources, off-site mitigation shall be provided by one, or a combination of, the following measures, in consultation with the USFWS and CDFW: 1) Debit credits from the San Miguel HMA (Table 4.2-2 shows the status of the mitigation bank credits, as of the date of this Final PEIR); 2) Contribute to the preserve system of other agency MSCPs through land acquisition or purchase of mitigation banking credits; and 3) Enhance, restore, create, and preserve in perpetuity off-site habitat areas at locations and	

Table S-1	Project Level Environmental Impacts and Mitigation Measures			
Issue	**Impacts**	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
			mitigation ratios to be approved by the appropriate regulatory agencies and in compliance with the mitigation ratios, guidelines, and standards required by the applicable MSCP subarea plans. Typical mitigation ratios for direct impacts to sensitive vegetation types include 2:1 for coastal sage scrub; 3:1 for maritime succulent scrub; 3:1 for native grassland; 2:1 for oak woodlands; 3:1 for southern interior cypress forest; 3:1 for riparian woodlands/forests; 3:1 for coastal freshwater marsh; 2:1 for riparian scrubs (absent threatened or endangered species); 5:1 for San Diego mesa claypan vernal pools; 3:1 for Gabbroic chaparrals; and 0.5:1 for non-native grassland (absent threatened or endangered species). These ratios will be decreased or increased depending on whether the impacts and mitigation would occur inside or outside an MSCP preserve area. For example, these ratios are typically doubled if impacts occur within previously conserved lands. Plans for habitat enhancement, restoration and creation shall be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Such plans shall include, at a minimum: (a) location of the mitigation site(s); (b) plant species to be used, container sizes, and seeding rates; (c) schematic depicting the mitigation area(s); (d) planting schedule; (e) description of the irrigation methodology; (f) measures to control exotic vegetation at the mitigation site(s); (g) specific success criteria (e.g., percent cover of native and non-native species, species richness); (h) detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and preserving the mitigation site(s) in perpetuity (including conservation easements and management funding). In addition, OWD shall negotiate and implement long-term maintenance requirements to ensure the success of the mitigation site(s). c. If federal permits or funding are required for CIPs (and listed species) that occur within USFWS-designated critical habitat, then Section 7 Consultations with the USFWS shall be initiated by the appropriate federal nexus~~permitting agency~~.	

Table S-1 Project Level Environmental Impacts and Mitigation Measures

Issue	Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
			Bio-1C Prior to vegetation clearing, grading, and/or construction activities for CIPs that have the potential to impact sensitive vegetation communities or special-status species (and any corresponding USFWS-designated critical habitats), a qualified biologist shall attend a pre-construction meeting to inform construction crews of the sensitive species and habitats within and/or adjacent to these project sites. Bio-1D Prior to vegetation clearing, grading, and/or construction activities, a qualified biologist shall oversee installation of appropriate temporary fencing and/or flagging to delineate the limits of construction and the approved construction staging areas for protection of identified sensitive resources outside the approved construction/staging zones: All construction access and circulation shall be limited to designated construction/staging zones. The fencing shall be checked weekly to ensure that fenced construction limits are not exceeded. This fencing shall be removed upon completion of construction activities. Construction staging areas shall be located a minimum of 100 feet from drainages, wetlands and areas supporting sensitive habitats or species. Fueling of equipment shall occur in designated fueling zones within the construction staging areas. All equipment used within the approved construction limits shall be maintained to minimize and control fluid and grease leaks. Provisions to contain and clean up unintentional fuel, oil, fluid and grease leaks/spills shall be in place prior to construction. Bio-1E During vegetation clearing, grading, and/or construction, a qualified biologist shall monitor these activities: If sensitive species and/or habitats adjacent to these project sites are inadvertently impacted by these activities, then the biologist shall immediately inform the on-site construction supervisor who shall temporarily halt or redirect work away from the area of impact. OWD shall immediately be notified of the impact and shall consult with the appropriate regulatory agencies to determine the required mitigation, according to Bio-1B(iv)(b) and (c) above. The biologist shall also ensure that all construction night lighting adjacent to sensitive habitat areas is of low illumination, shielded, and directed downwards and away from these areas.	

Table S-1 Project Level Environmental Impacts and Mitigation Measures

Issue	Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
			Bio-1F Construction equipment will be checked by the biological monitor prior to use each morning to ensure no sensitive wildlife species sheltered in or around any equipment left on site overnight. Bio-1G Trenches associated with pipe installation will be backfilled with earth at the end of each work day to prevent wildlife access, with the exception of the end of the open pipe, which will be left exposed. During installation, the area surrounding the end segment of exposed open pipe will be sloped at the end of each work day at an angle to allow wildlife to easily escape. Also, the open end of the exposed pipe will be covered at the end of each work day with a material flush with the open pipe entrance such as a wooden board or cap such that no wildlife, including smaller species like lizards, can enter the pipe. Should wildlife become trapped in the vicinity of the open exposed pipe, the qualified biologist(s) will remove and relocate the individual outside the construction zone.	
4.3 Cultural Resources				
Historical Resources	Implementation of historic resource measures (Cul-PDF-1 and Cul-PDF-2) require a historical building assessment prior to demolition of PS 657-1 and PS 657-2, and a subsequent documentation/treatment program as necessary, and would reduce impacts to potential historical resources.	LS	No further mitigation is required.	LS
Archaeological Resources	Ground disturbance associated with construction of certain CIP projects under the 2009 WRMP Update has the potential to affect potentially significant unknown archaeological resources.	PS	Cul-2A Prior to initiation of any CIP project work, a review of records search data, a search of the Native American Heritage Commission's Sacred Lands Files, and an appropriate-level field survey shall be conducted by a qualified archaeologist to determine if any unrecorded archaeological sites are present. If archaeological resources are found, if feasible, the preferred course of action is that that archaeological resources be preserved in-situ. When avoidance of impacts is not possible, site evaluations and possible data recovery mitigation, as needed, shall be required for all resources. Any artifacts recovered during excavation, other than cultural material subject to repatriation, shall be curated with its associated records at a curation facility approved by OWD and a qualified archaeologist. Excavation of deposits shall be coordinated with and monitored by local Native American representatives. The results of the field survey shall be presented in an Archaeological Resources Management formatted report and a copy of the report with all associated Department of Parks and Recreation site	LS

Table S-1 Project Level Environmental Impacts and Mitigation Measures

Issue	Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
			recordation forms be submitted to the South Coastal Information Center within one month of report finalization. Cul-2B During the design phase, available data shall be reviewed by a qualified archaeologist on the depth of fill below existing roads in which pipelines would be installed. If such review indicates that native soils would not be disturbed by pipeline trenching activities, then cultural resources monitoring will not be required for those CIP projects, and this determination by a qualified archaeologist shall be documented by OWD in accordance with CEQA requirements. OWD will provide a copy of this CEQA documentation to the SDCAS. If it is determined that native soils would be disturbed by project activities, then a cultural resources monitoring program shall be implemented in accordance with measures Cul-2C through Cul-2D. Cul-2C Prior to grading of CIP projects, OWD shall retain a qualified archaeologist to monitor all ground-disturbing activities in coordination with a Native American monitor (as applicable). Prior to beginning any work that requires cultural resources monitoring: i. A preconstruction meeting shall be held that includes the archaeologist, construction supervisor and/or grading contractor, and other appropriate personnel to go over the cultural resources monitoring program. ii. The archaeologist shall (at that meeting or subsequently) submit to the OWD a copy of the site/grading plan that identifies areas to be monitored. iii. The archaeologist shall coordinate with the construction supervisor and OWD on the construction schedule to identify when and where monitoring is to begin, including the start date for monitoring. iv. The archaeologist shall be present during grading/excavation and shall document such activity on a standardized form. A record of monitoring activity shall be submitted to OWD each month and at the end of monitoring. Cul-2D In the event archaeological resources are discovered during ground-disturbing activities, the on-site construction supervisor shall be notified and shall redirect work away from the location of the discovery to allow for preliminary evaluation of potentially significant archaeological	

Table S-1 Project Level Environmental Impacts and Mitigation Measures

Issue	Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
			resources. The OWD shall consult with the archaeologist to consider means of avoiding or reducing ground disturbance within the archaeological site boundaries, including minor modifications of project footprints, placement of protective fill, establishment of a preservation easement, or other means. If development cannot avoid ground disturbance within the archaeological site boundaries, then OWD shall implement the measures listed below. The construction supervisor shall be notified by the archaeologist when the discovered resources have been collected and removed from the site, at which time the construction supervisor shall direct work to continue in the location of the discovery. i. Prepare a research design, resource evaluation plan and, if necessary, an archaeological data recovery plan that will capture those categories of data for which the site is significant. The significance of the discovered resources shall be determined in consultation with the Native American representative, as appropriate. All archaeological work shall be conducted in the presence of a Native American monitor. ii. If, in the opinion of the qualified archaeologist and in light of the data available, the significance of the site is such that data recovery cannot capture the values that qualify the site for inclusion in the CRHR, then OWD shall reconsider project plans in light of the high value of the resource, and implement more substantial project modifications that would allow the site to be preserved intact, such as redesign, placement of fill, or relocation or abandonment. iii. Perform appropriate technical analyses, prepare a report and file it with the SCIC, and provide for the permanent curation of recovered resources, as follows: a. The archaeologist shall ensure that all significant cultural resources collected are cleaned, catalogued, and analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; that specialty studies are completed, as appropriate; and that a letter of acceptance from the curation institution has been submitted to OWD. b. Curation of artifacts shall be completed in consultation with the Native American representative, as applicable.	

Table S-1	Project Level Environmental Impacts and Mitigation Measures			
Issue	**Impacts**	**Significance Before Mitigation**	**Mitigation Measures**	**Significance After Mitigation**
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
Human Remains	Native American or other human remains could be encountered during ground disturbance associated with construction of certain CIP projects under the 2009 WRMP Update; however, compliance with the California Health and Safety Code (Cul-SCP-1) would reduce impacts associated with discovery of human remains.	LS	No mitigation is required.	LS
4.4 Energy				
Inefficient energy use	The construction and operation of CIP projects under the 2015 WFMP Update would result in the consumption of energy, however, implementation of energy efficient measures (Ene-PDF-1, Ene-PDF-2, Ene-PDF-3, and Ene-PDF-4) would ensure that energy use would not be inefficient, wasteful, or unnecessary.	LS	No mitigation is required.	LS
4.5 Geology, Soils, Paleontology				
Exposure to Seismic-Related Hazards	Compliance with UBC and CBC standards and CDMG's Special Publications 117 (Geo-PDF-1), and implementation of recommendations provided in site-specific geotechnical investigations (Geo-SCP-1), would minimize impacts associated with seismic-related groundshaking, ground failure, liquefaction, and landslides.	LS	No mitigation is required.	LS
Soil Erosion or Topsoil Loss	Compliance with UBC and CBC standards (Geo-PDF-1), implementation of recommendations provided in site-specific geotechnical investigations, and implementation of standard erosion control measures (Geo-SCP-2 and Geo-SCP-3) would reduce impacts associated with soil erosion and loss of topsoil.	LS	No mitigation is required.	LS
Geologic/Soil Instability	Implementation of recommendations provided in site-specific geotechnical investigations (Geo-SCP-1 and Geo-SCP-4) would reduce impacts associated with geologic/soil instability (landslides, lateral spreading, liquefaction/collapse).	LS	No mitigation is required.	LS
Expansive Soils	Implementation of recommendations provided in site-specific geotechnical investigations (Geo-SCP-1 and Geo-SCP-4) would reduce impacts associated with expansive soils.	LS	No mitigation is required.	LS

Table S-1 Project Level Environmental Impacts and Mitigation Measures

Issue	Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
Paleontological Resources	Implementation of the 2015 WFMP Update could impact potential paleontological resources within the planning area.	PS	Geo-5A During the design phase for all CIP pipeline projects within the 2015 WFMP Update, available data shall be reviewed on the depth of fill below existing roads in which pipelines would be installed. If such review indicates that native soils would not be disturbed by pipeline trenching activities, then paleontological monitoring will not be required for those CIP projects, and this determination shall be documented by OWD in accordance with CEQA requirements. If it is determined that native soils would be disturbed by pipeline trenching activities, then a paleontological monitoring program shall be implemented in accordance with measures Geo-5B through Geo-5D. Geo-5B Prior to grading for CIP projects, OWD shall retain a qualified paleontologist to monitor all ground-disturbing activities for all CIP projects described under Section 4.5.3.5 (Issue 5 Impact Analysis) of the PEIR. A record of monitoring activity shall be submitted to OWD each month and at the end of monitoring. Geo-5C In the event fossils are discovered during ground-disturbing activities, the on-site construction supervisor shall be notified and shall redirect work away from the location of the discovery, so that the fossils can be removed by the paleontologist for significance evaluations. The on-site construction supervisor shall be notified by the paleontologist when the fossils have been removed, at which time the construction supervisor shall direct work to continue in the location of the fossil discovery. Geo-5D For fossils removed from the construction site in accordance with measure Geo-5C that are determined to be significant, the following measures shall be implemented: i. The paleontologist shall ensure that all significant fossils collected are cleaned, identified, catalogued, and permanently curated with an appropriate institution with a research interest in the materials; ii. The paleontologist shall ensure that specialty studies are completed, as appropriate, for any significant fossil collected; and iii. The paleontologist shall ensure that curation of fossils are completed in consultation with OWD. A letter of acceptance from the curation institution shall be submitted to OWD.	LS

Table S-1 Project Level Environmental Impacts and Mitigation Measures

Issue	Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
4.6 Global Climate Change				
Greenhouse gas emissions	Implementation of standard construction practices (Air-SCP-3) and energy efficiency measures (Ene-PDF-1 through Ene-PDF-4) would incorporate all applicable features that are consistent with measures recommended by the California Climate Action Team, CAPCOA, California Attorney General and the County of San Diego for assisting the State of California in the attainment of the goals of AB 32.	PS	GHG-1 Otay Water District will prepare annual construction activity estimates prior to undertaking the first construction activity of any year. The annual construction estimate shall demonstrate that the annual construction equipment use will be less than or equal to the activity shown in Table 4.6-4 of this PEIR.	
4.7 Hydrology and Water Quality				
Water Quality	Implementation of standard erosion control measures (Geo-SCP-2 and Geo-SCP-3), construction-related safety plans (Hyd-SCP-1), and OWD HMBPs for CIP operations (Hyd-PDF-1) would reduce impacts associated with potential violation of water quality standards or waste discharge requirements, and potential water quality degradation resulting from construction and operation of CIP projects under the 2015 WFMP Update.	LS	No mitigation is required.	LS
Groundwater Quality and Recharge	Implementation of standard erosion control measures (Geo-SCP-2 and Geo-SCP-3), construction-related safety plans (Hyd-SCP-1), and OWD HMBPs for CIP operations (Hyd-PDF-1) would reduce potential groundwater quality impacts due to storm water runoff pollution associated with construction and long-term operations at P2391, P2554, P2405, P2579, and P2392. In addition, there would be no impacts to groundwater supplies and recharge from implementation of the remaining CIP projects under the 2015 WFMP Update.	LS	No mitigation is required.	LS
Alteration of Drainage Patterns	Implementation of standard erosion control measures (Geo-SCP-2 and Geo-SCP-3), construction-related safety plans (Hyd-SCP-1), OWD HMBPs for CIP operations (Hyd-PDF-1), and appropriately sized drainage facilities (Hyd-PDF-2) would reduce impacts from potential storm water runoff pollution (including erosion/siltation), flooding, and exceedance of capacity of storm water drainage facilities due to alteration of localized drainage patterns associated with construction, development and long-term operations of CIP projects under the 2015 WFMP Update.	LS	No mitigation is required.	LS

Table S-1 Project Level Environmental Impacts and Mitigation Measures

Issue	Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
Mudflows	Implementation of recommendations provided in site-specific geotechnical investigations (Geo-SCP-1), would reduce potential impacts associated with mudflows.	LS	No mitigation is required.	LS
4.8 Landform Alteration and Visual Aesthetics				
Scenic Vistas	Implementation of Aes-PDF-1 would reduce the visual impacts of Res 980-4, Res 860-1, Res 870-2, Lower Otay Pump Station, PS 978-2, PS 870-2, and PS Perdue WTP on scenic vistas within the OWD jurisdiction.	LS	No mitigation is required.	LS
Visual Character and Quality	Implementation of Aes-PDF-1 and any additional project-specific mitigation measures identified in subsequent CEQA documentation would reduce visual impacts resulting from construction activities and design of above-ground CIP projects under the 2015 WFMP Update.	LS	No mitigation is required.	LS
Lighting and Glare	Implementation of Aes-PDF-1 would reduce the impact of new sources of substantial light or glare in association with CIP projects which could adversely affect day and nighttime views nearby.	LS	No mitigation is required.	LS
4.9 Land Use and Planning				
Conflict with applicable HCPs or NCCPs	Design of CIP projects incorporating MSCP land use adjacency guidelines of the County of San Diego (LU-PDF-1), City of San Diego (LU-PDF-2), and City of Chula Vista MSCP (LU-PDF-3), compliance with exterior noise limits (Noi-PDF-1), and pre-construction surveys (Bio-1C) would reduce indirect impacts to biological resources that would otherwise conflict with applicable HCPs and NCCPs.	LS	No mitigation is required.	LS
4.10 Noise				
Permanent increases in ambient noise levels	Implementation of project design feature Noi-PDF-1 would reduce potential operational noise sources from CIP pump stations and water supply projects to the noise level limits established by the applicable jurisdictions.	LS	No mitigation is required.	LS
Temporary increases in noise levels	Although construction of CIP projects would temporarily increase ambient noise levels in the project vicinity, Noi-SCP-1 would ensure compliance with applicable local noise ordinances and regulations and Noi-SCP-2 would require the implementation the OWD Standard Specifications for Explosives and Blasting. Implementation of these SCPs would reduce impacts associated with temporary increases in ambient noise.	LS	No mitigation is required.	LS

Table S-1 Project Level Environmental Impacts and Mitigation Measures

Issue	Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
Groundborne vibration	Construction of CIP projects may temporarily result in excessive groundborne vibration and noise that may affect surrounding land uses. However, implementation of the Noi-SCP-1 would ensure compliance with applicable local noise ordinances and regulations and Noi-SCP-2 would ensure the OWD Standard Specifications for Explosives and Blasting and would reduce groundborne vibration from construction activities.	LS	No mitigation is required.	LS
4.11 Public Safety				
Transport and use of hazardous materials	Implementation of a Hazardous Materials Business Plan (Haz-SCP-1, Haz-PDF-1, and Haz-PDF-2) would reduce hazards to the public or the environment through transportation, use, and disposal of hazardous materials resulting from CIP construction and operations under the 2015 WFMP Update, and associated accidental releases of hazardous materials into the environment and near schools.	LS	No mitigation is required.	LS
Hazardous materials sites	CIP construction activities could be located on or near listed hazardous materials sites resulting in a significant hazard to the public or the environment.	PS	Haz-2A As part of geotechnical investigations conducted prior to ground-disturbing activities for CIPs (refer to the SCPs listed in Section 4.5, Geology, Soils and Paleontology, of this PEIR), a database search of hazardous materials sites shall be performed within a one-mile radius surrounding the CIP site pursuant to Government Code Section 65962.5. In the event such sites are identified within the search parameters, OWD shall retain a registered environmental assessor to prepare a Remediation Plan for any contaminated soils or groundwater encountered within the construction area. The Remediation Plan shall be incorporated into the construction documents. If contamination is encountered during ground-disturbing activities, the on-site construction supervisor shall redirect work away from the location of the contamination and shall notify OWD, County DEH and RWQCB. The contamination remediation and removal activities shall be conducted in accordance with the Remediation Plan and pertinent regulatory guidelines, under the oversight of the appropriate regulatory agency.	LS

Table S-1 Project Level Environmental Impacts and Mitigation Measures

Issue	Impacts	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable				
Emergency response plans	Implementation of a traffic control plan (Haz-SCP-2) would reduce impacts associated with temporary, construction-related lane and road closures or detours and their potential impairment or interference with adopted emergency response and evacuation plans.	LS	No mitigation is required.	LS
4.12 Transportation/Traffic				
Circulation system performance and level of service standards	Implementation of the CIP projects would generate incremental increases in vehicle trips and would not be substantial in relation to the existing traffic load and capacity of intersections, street segments and freeways within the planning area.	LS	No mitigation is required.	LS

Table S-2 Cumulative Impacts and Mitigation Measures

Issue	Geographic Scope of Cumulative Impact Analysis	Significance of Cumulative Impact after Mitigation	SDCRM Contribution
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable			
4.1 Air Quality			
Consistency with applicable air quality plan.	Sensitive receptors adjacent to CIP construction sites for toxic air contaminants; the San Diego Air Basin for criteria air pollutants.	LS	Not cumulatively considerable.
Consistency with air quality standards.	Sensitive receptors adjacent to CIP construction sites for toxic air contaminants; the San Diego Air Basin for criteria air pollutants.	LS	Not cumulatively considerable with implementation of Air-SCP-1, Air-SCP-2 and Air-1.
4.2 Biological Resources			
Regional loss of sensitive plants, animals, and vegetation communities.	Natural habitats within and adjacent to CIP construction sites.	LS	Not cumulatively considerable with implementation of performance measures Bio-1A through Bio-1G~~E~~.
4.3 Cultural Resources			
Regional loss of archeological resources.	The planning area and adjacent areas of influence.	LS	Not cumulatively considerable with implementation of measures Cul-2A through Cul-2D.
Regional loss of Native American human remains	The planning area and adjacent areas of influence.	LS	Not cumulatively considerable with implementation of Cul-SCP-1.
4.4 Energy			
Energy Consumption	The planning area and adjacent areas of influence.	LS	Not cumulatively considerable with implementation of Ene-PDF-1 through Ene-PDF-4.
4.5 Geology, Soils, Paleontology			
Localized soil erosion or loss of topsoil in affected watersheds due to development.	The Sweetwater River and Otay River watersheds directly downstream from CIP construction sites.	LS	Not cumulatively considerable with implementation of Geo-PDF-1, Geo-SCP-2 and Geo-SCP-3.
Regional loss of paleontological resources	The paleontologically sensitive geologic formations within the planning area.	LS	Not cumulatively considerable with implementation of mitigation/performance measures Geo-5A through Geo-5D.
4.6 Global Climate Change			
Greenhouse gas emissions	Global atmosphere.	LS	Not cumulatively considerable with implementation of Air-SCP-1 through Air-SCP-3 and Ene-PDF-1 through Ene-PDF-4.

Table S-2 Cumulative Impacts and Mitigation Measures

Issue	Geographic Scope of Cumulative Impact Analysis	Significance of Cumulative Impact after Mitigation	SDCRM Contribution
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable			
4.7 Hydrology and Water Quality			
Regional increase in pollutant sources that could adversely affect water quality standards.	The Tijuana River, Otay River and Sweetwater River watersheds directly downstream from CIP construction sites and above-ground CIP projects (e.g., enclosed reservoirs, pump stations).	LS	Not cumulatively considerable with implementation of Geo-PDF-1, Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, and Hyd-PDF-1.
Localized impacts to groundwater quality and supplies/recharge.	The San Diego Formation, Sweetwater, and Otay Valley groundwater basins.	LS	Not cumulatively considerable with implementation of Geo-PDF-1, Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, and Hyd-PDF-1.
Regional impacts to surface and groundwater quality, groundwater supplies/recharge, flooding, and exceedance of capacity of storm water drainage facilities due to alteration of localized drainage patterns.	The San Diego Formation, Sweetwater, and Otay Valley groundwater basins.	LS	Not cumulatively considerable with implementation of Geo-PDF-1, Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, Hyd-PDF-1, and Hyd-PDF-2.
4.8 Landform Alteration and Aesthetics			
Local degradation of scenic vistas.	Public viewsheds from which above-ground CIP projects would be visible.	LS	Not cumulatively considerable with implementation of Aes-PDF-1.
Local degradation of visual character.	Public viewsheds from which above-ground CIP projects would be visible.	LS	Not cumulatively considerable with implementation of Aes-PDF-1.
4.9 Land Use and Planning			
Conflicts with regional HCPs/NCCPs, in terms of indirect impacts to biological resources in MSCP reserves.	All of the open space reserves within and adjacent to the planning area, as identified by Multiple Species Conservation Plans of local agencies, including the San Miguel Habitat Management Area operated by OWD.	LS	Not cumulatively considerable with implementation of LU-PDF-1, LU-PDF-2, LU-PDF-3, Noi-PDF-1, and Bio-1C.
4.10 Noise			
Substantial Permanent Ambient Noise Increases	Residential projects directly adjacent to CIP construction sites and pump stations.	LS	Not cumulatively considerable.
Temporary Increases in Ambient Noise	Residential projects directly adjacent to CIP construction sites and pump stations, and projects adjacent to roadways and freeways used by construction-related traffic along which the projected increase in construction traffic would exceed noise standards.	LS	Not cumulatively considerable.

Table S-2 Cumulative Impacts and Mitigation Measures

Issue	Geographic Scope of Cumulative Impact Analysis	Significance of Cumulative Impact after Mitigation	SDCRM Contribution
Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable			
Generation of Groundborne Vibration	Residential projects directly adjacent to CIP construction sites and pump stations, and projects adjacent to roadways and freeways used by construction-related traffic along which the projected increase in construction traffic would exceed noise standards.	LS	Not cumulatively considerable.
4.11 Public Safety			
Transport, use, and disposal of hazardous materials and accidental releases into the environment and near schools.	Projects adjacent to roadways and freeways used by vehicles transporting hazardous materials to and from the CIP construction sites.	LS	Not cumulatively considerable with implementation of Haz-SCP-1 and Haz-PDF-1.
4.12 Transportation/Traffic			
Circulation system performance and level of service standards	Roadways and intersections in the vicinity of CIP construction sites at which the projected increase in construction traffic would exceed 50 peak-hour trips.	LS	Not cumulatively considerable.

Chapter 1 INTRODUCTION

1.1 Project Background

The Otay Water District (OWD) was authorized as a California Special District by the State Legislature in 1956, under the provisions of the Municipal Water District Law of 1911, and thereby gained its entitlement to imported water. As a member agency of the San Diego County Water Authority (SDCWA), the OWD purchases all of the potable water that it delivers from the SDCWA. The SDCWA is responsible for transmission of the imported water supply within San Diego County to its member agencies, and is itself a member of the Metropolitan Water District of Southern California (MWD).

In 2002, OWD developed a comprehensive Water Resources Master Plan (WRMP) that combined all previously existing master plans and facility plans into one system wide plan outlining the Capital Improvement Program (CIP) projects required to serve their customers. In 2009, OWD updated the WRMP. The following three phases were identified in the 2009 WRMP Update: Phase I (2015-2016), Phase II (2017-2022), Phase IIIA (2023-2050), and Phase IIIB (2023-2050). Minor updates to the 2009 WRMP were completed in 2010 and 2013.

Since 2002, OWD has continued to improve its potable water facilities to meet the water demands associated with growth. OWD has also continued to improve and expand its recycled water facilities to serve irrigation demands and conserve potable water supplies. The CIP is updated annually to reflect system improvements and to identify future needs for budgeting purposes.

OWD has explored opportunities to expand its local resources as a means to offset the risk of interrupted imported water supplies. To address the uncertainties surrounding imported water supplies due to potential drought shortages or emergency seismic conditions, in addition to the rising costs of imported water, OWD has prepared an Integrated Resources Plan (IRP) to develop a flexible, long-term strategy for its future supply portfolio. The IRP defines a course for OWD's development of local water supply projects. To the extent the supply plans identified in the IRP affect the planning of OWD's potable and recycled water systems, they are incorporated into the Master Plan.

The purpose of the 2015 Water Facilities Master Plan (WFMP) Update is to revise the OWD 2009 WRMP; update planning criteria and OWD's hydraulic system models; map out water and recycled water facility improvements; update OWD's CIP projects; and identify adaptive responses to changed conditions.

1.2 Intended Use and Purpose of the Program EIR

One of the purposes of a Program Environmental Impact Report (PEIR) is to provide a basis for tiering environmental documents that address subsequent activities, pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15152 and 15168(c). CEQA Guidelines Section 15168(c)(5) states, "A program EIR would be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required."

This PEIR analyzes proposed (near-term; Phase II) and subsequent (long-term; Phase III) activities associated with implementation of the 2015 WFMP Update. Adoption of the WFMP Update or certification of the final PEIR does not constitute a commitment to any specific CIP project or activity, construction schedule, or funding priority. Furthermore, inclusion of any conceptual plans, studies, or potential construction assumptions in this PEIR does not constitute a commitment to such plans, studies, or assumptions. Any inconsistencies between future CIP projects or activities and conceptual plans, studies, or potential construction assumptions considered in this PEIR would not preclude the environmental documentation prepared for the subsequent projects or activities from tiering from this PEIR. Such inconsistencies merely indicate that the future CIP projects or activities may not be entirely within the scope of this PEIR, and additional analyses may be required.

The PEIR process and the information it generates will be used for the following purposes:

- To give government officials and the community the opportunity to provide input into the decision-making process;
- To provide agencies with information necessary for them to determine if they have jurisdiction over some aspect of WFMP implementation and, if so, to identify permitting requirements;
- To identify a range of reasonable and practicable alternatives;
- To inform the public as well as the decision makers of the environmental consequences of WFMP implementation and its alternatives and to assist agency officials in making decisions and taking actions to protect, restore, and enhance the environment;
- To assist the community in understanding the expected environmental effects and how decision-makers plan to respond to and mitigate these effects; and
- To develop mitigation measures that would reduce or eliminate the potential for environmental, public health, and safety impacts.

Subsequent environmental documents for future CIP projects that implement the 2015 WFMP Update would tier from this PEIR, and may include Addendums, Initial Studies, Negative Declarations, Mitigated Negative Declarations, and Subsequent or Supplemental EIRs. As discussed in CEQA Guidelines Section 15152, "tiering" refers to using the analysis of general matters contained in a broader EIR with later EIRs. Tiering is accomplished by incorporating by reference the general discussions from broader EIRs. Tiering allows the subsequent environmental document to focus on those issues most relevant to its preparation.

According to CEQA Guidelines Section 15168 (c), the environmental review process for implementation of CIP projects identified in the 2015 WFMP Update should proceed along the following sequence.

> Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.
>
> 1) If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.
> 2) If the lead agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required.
> 3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.
> 4) Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

CEQA Guidelines Section 15168(d) describes the CEQA review process steps for subsequent implementation projects as follows:

> A program EIR can be used to simplify the task of preparing environmental documents on later parts of the program. The program EIR can:
>
> 1) Provide the basis in an Initial Study for determining whether the later activity may have any significant effects.
> 2) Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.
> 3) Focus an EIR on a subsequent project to permit discussion solely of new effects, which had not been previously considered.

1.3 CEQA Requirements

This PEIR complies with the criteria, standards, and procedures of the CEQA and the State CEQA Guidelines (California Administrative Code, Section 15000, et seq.). The OWD is the Lead Agency for the preparation of this PEIR, as defined in CEQA Guidelines Section 15367.

Notice of Preparation/Scoping Process

Scoping is the process followed to ensure that the germane environmental concerns of individuals, organizations, and agencies about a proposed project are adequately addressed within the project's environmental document. Scoping is an integral part of the CEQA process because it allows interested parties to participate directly in the preparation of the environmental document, and to identify significant environmental effects and alternatives.

To initiate the public scoping process for this PEIR in accordance with CEQA, the OWD circulated a Notice of Preparation (NOP) through direct mailings and published a legal notice in the San Diego Union Tribune on June 29, 2015. The 30-day public review period for the NOP ended July 30, 2015. Seven comment letters and a response from the State Clearinghouse (SCH) were received during the NOP public scoping period. Comment letters were received from the following entities:

- San Diego County Archaeological Society
- California Department of Fish and Wildlife (CDFW)
- California Department of Transportation (Caltrans)
- East Otay Mesa Property Owners Association/Otay Mesa Property Owners Association;
- State Water Resources Control Board (SWRCB)
- County of San Diego, Planning & Development Services
- Metropolitan Water District of Southern California

A public scoping meeting was held at the OWD office, located at 2554 Sweetwater Springs Boulevard, Spring Valley, California on July 14, 2015 at 5:00 p.m. The purpose of this meeting was to provide the public and governmental agencies with information on the 2015 WFMP Update and the CEQA process, and to give attendees an opportunity to identify environmental issues and alternatives that should be considered in the PEIR. Attendees were invited to mail their comment letters to the OWD during the 30-day NOP public scoping period by no later than July 30, 2015, or leave them with OWD staff following the scoping meeting to ensure that their concerns would be addressed in the PEIR. Comment forms were also available for attendees to fill out and leave with OWD staff at the scoping meeting. Although no comment forms were completed, verbal comments were received from one person at the scoping meeting. Verbal comments were received from a representative of the East Otay Mesa Property Owners Association/Otay Mesa Property Owners Association.

Appendix A to this PEIR includes the NOP and associated legal newspaper advertisement; copies of the written comments received during the NOP public scoping period; and a matrix summarizing all written and verbal comments received during the NOP public scoping period, and identifying the locations in the PEIR where the pertinent comments are addressed.

The input received from the NOP public scoping period assisted OWD in identifying the range of actions, alternatives, issues, and potential effects associated with the 2015 WFMP Update. All issues raised during the NOP public scoping period were reviewed by OWD to determine the appropriate consideration and level of analysis.

Draft Program EIR Public Review

The draft PEIR is subject to a 45-day public review and comment period, beginning on August 3, 2016 and ending on September 17, 2016. “Responsible agencies,” “trustee agencies,” and interested organizations and individuals can provide written comments on the document during this review period. As defined in the State CEQA Guidelines, “responsible agencies” are those that have discretionary approval over the 2015 WFMP Update, in addition to the Lead Agency, and “trustee agencies” are those that have jurisdiction by law over natural resources affected by implementation of the 2015 WFMP Update, which are held in trust for the people of the State of California. There are no “responsible agencies” that have any discretionary approvals associated with the 2015 WFMP Update. As identified in the NOP comment

letters (Appendix A to this PEIR), the CDFW is a "trustee agency" for the migratory birds, anadromous fish, and endangered plants, animals and their habitats under the protection of the California Endangered Species Act (CESA) of 1970, as amended, and which may be impacted by implementation of the 2015 WFMP Update. Also, the U.S. Fish and Wildlife Service (USFWS) is a "trustee agency" for the migratory birds, anadromous fish, and endangered plants, animals, and their habitats under the protection of the federal Endangered Species Act (ESA of 1973), as amended. In addition, the U.S. Army Corps of Engineers (USACE) is a "trustee agency" for the discharge of dredged or fill material into, including any redeposit of dredged material within "waters of the United States (U.S.)" and adjacent wetlands pursuant to Section 404 of the Clean Water Act (CWA) of 1972.

Written comments will be received by the OWD at the following addresses:

Lisa Coburn-Boyd
Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley, CA 91978-2004
Phone: (619) 670-2219 E-mail: lisa.coburn-boyd@otaywater.gov

Copies of the draft PEIR are available to the public for review at the addresses above, at the OWD website (www.otaywater.gov), and at the following public libraries:

- Chula Vista Public Library, Civic Center Branch, 365 F Street, Chula Vista, CA 91910
- San Diego Public Library, Central Branch, 330 Park Boulevard, San Diego, CA 92101
- San Diego County Library, Rancho San Diego Branch, 11555 Via Rancho San Diego, El Cajon, CA 92019

Organization of the Program EIR

The content and format of this PEIR are designed to meet the requirements of CEQA. This PEIR includes the following:

- **Executive Summary.** Summarizes the proposed OWD 2015 WFMP Update, environmental impacts that would result from implementation of the proposed project, recommended mitigation measures that would avoid or reduce impacts, and the level of significance of impacts both before and after mitigation. Also identifies areas of controversy known to the Lead Agency and issues to be resolved including the choice among alternatives and whether or how to mitigated the significant effects.
- **Chapter 1, Introduction.** Provides an introduction and overview describing the purpose and intended use of the PEIR, the PEIR's compliance with CEQA, and the scope and organizational format of the EIR.
- **Chapter 2, Environmental Setting.** Provides a description of the physical environmental conditions in the vicinity of the project as they exist at the time the NOP is published, which constitute the baseline physical conditions by which OWD will determine if an impact is significant. This section also includes a discussion of the regional setting, including resources that are rare or unique to the region, and identifies any inconsistencies between the proposed project and applicable general and regional plans.

- **Chapter 3, Project Description.** Provides a detailed description of the proposed project, including its geographical setting, background information on the site's prior uses, major objectives, structural and technical characteristics and components, and project construction. This section also includes a list of discretionary actions that would be required to approve the proposed project by the Lead Agency and other Responsible and Trustee agencies.
- **Chapter 4, Environmental Impact Analysis.** Contains project analysis for the various environmental topics. The subsection for each environmental topic contains a description of the existing environmental setting of the project site and area, regulatory framework, impacts and mitigation measures, CEQA checklist items deemed not significant or not applicable to the 2015 WFMP Update, and references.
- **Chapter 5, Other CEQA Considerations.** Provides discussions required by Sections 15126 and 15128 of the State CEQA Guidelines, including effects found not to be significant during the PEIR process, growth inducing impacts of the proposed project, significant environmental effects that cannot be avoided if the proposed project is implemented, and significant irreversible environmental changes that would result from implementation of the proposed project.
- **Chapter 5, Cumulative Impacts and Mitigation.** Contains discussion of cumulative impacts, which is two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.
- **Chapter 7, Alternatives.** Describes alternatives to the proposed project that could avoid or substantially lessen significant effects and evaluates their environmental effects in comparison to the proposed project. The alternatives analyzed in this chapter include the No Project Alternative and the Reduced Footprint Alternative.
- **Chapter 8, Acronyms and Abbreviations.** This chapter defines the acronyms and abbreviations used throughout the PEIR.
- **Chapters 9 and 10.** These chapters provide a list of the PEIR preparers, and a list of persons/ agencies to receive the PEIR, respectively.
- **Appendix A.** Notice of Preparation and Responses
- **Appendix B.** Special Status Species Reported or Potentially Occurring within the Planning Area
- **Appendix C.** Future Project Activity/Site Evaluation Checklist

Other Related Environmental Documents

This PEIR incorporates by reference the PEIR for the OWD 2009 WRMP Update (SCH #2008101127), which was certified by the OWD Board of Directors on February 3, 2010. CEQA Guidelines Section 15150 provides guidance for incorporation by reference, and requires that relevant information be summarized in the subsequent environmental document provided that the previous environmental document be made available for review by the public. The PEIR for the OWD 2009 WRMP is available to the public for review by appointment only at OWD, 2554 Sweetwater Springs Boulevard, Spring Valley, CA 91978. Due to its age, the 2002 WRMP PEIR no longer reflects current land use information, and is therefore not incorporated by reference into this PEIR.

Chapter 2 ENVIRONMENTAL SETTING

The purpose of this chapter is to provide an overview of the regional and local environmental setting of the water supply and delivery systems within OWD and generalized information regarding natural resources and land use.

2.1 Regional Setting

MWD consists of 26 cities and water districts located within southern California. MWD's primary water resources are the Colorado River and the California State Water Project (primarily water from northern California). MWD supplies raw and treated water to SDCWA, a local member agency. SDCWA in turn then sells water to 23 water agencies within the San Diego region, including OWD.

2.2 Local Setting

The OWD service area is regionally located within south central San Diego County, and is bounded by rural lands to the east, the Padre Dam Municipal Water District to the north, the Helix Water District to the northwest, the Sweetwater Authority and the city of San Diego to the west, and the U.S./Mexico International Border to the south. There are several major transportation routes though which access to OWD is possible, including Interstate (I-) 8, State Route (SR-) 54, and SR-94 in the north; I-805 to the west; and SR-125 in the north and south.

The OWD service area consists of 80,320 acres (125.5 square miles), within south central San Diego County. Elevations within the planning area range from 59 feet above mean sea level (AMSL) to 2,605 feet AMSL. The OWD water service area is divided into five distinct water service areas (see Figure 3-2). The three northernmost service areas – Regulatory, La Presa and Hillsdale – are collectively referred to as the North District. The two southernmost service areas – Central and Otay Mesa – are collectively referred to as the South District. OWD also maintains and operates a recycled water system in the South District (Central and Otay Mesa operating systems). A brief description of the environmental setting within each operating system is included below.

2.2.1 North District

Regulatory System

This area spans 27,440 acres within the eastern portion of the planning area. Of the five service areas, the Regulatory System contains the most undeveloped land, and is just west of the southern edge of Cleveland National Forest. Elevations within this area range from 289 feet AMSL to 2,605 feet AMSL. This service

area contains the following scenic topographic features: San Miguel Mountain, Mother Miguel Mountain, and a portion of the Jamul Mountains. Dulzura Creek is also located within the Regulatory System and extends from the Lower Otay Reservoir in the south, paralleling Otay Lakes Road until reaching SR-94, and then follows SR-94 to the southeast corner of the service area. The service area contains the following vegetation types: marsh and wetland, forest, grassland (native, non-native and vernal pools), riparian communities, coastal scrub and chaparral, and woodland.

La Presa System

This service area is 5,882 acres within the northwestern portion of the planning area. The majority of the topography in the La Presa System is relatively flat. The Sweetwater Reservoir is a scenic aquatic feature that lies just outside the southerly boundary of the service area. The majority of this area (approximately 60 percent) is urban; the remaining area contains the following vegetation types: coastal sage scrub, chaparral, grassland, riparian, and wetland.

Hillsdale System

The Hillsdale System, in the northern portion of the planning area, comprises 9,569 acres. Elevations range from 325 feet AMSL to 2,167 feet AMSL, and this area contains one scenic topographic feature: McGinty Mountain. In addition, Jamacha Valley and Sweetwater River traverse this service area. Approximately 50 percent of this area is urban; the remaining portions consist of coastal sage scrub, chaparral, riparian, and wetlands.

2.2.2 South District

Central Area System

The Central Area System is located in eastern Chula Vista and consists of 27,702 acres. Elevations range from 59 feet AMSL to 2,369 feet AMSL. Although there are no scenic topographic features within this service area, the Upper and Lower Otay reservoirs are scenic aquatic features that lie just outside the easterly boundary. In addition, Poggi Canyon, Otay Valley and Otay River traverse the southerly service area boundary. Approximately 40 percent of this area is urban; the remaining portions contain the following vegetation types: coastal sage scrub, chaparral, grassland, riparian and wetlands.

Otay Mesa System

The Otay Mesa System contains rolling hills, open mesas, river valleys, canyons, and mountain ranges with steep, rugged terrain. Elevations range from 213 feet AMSL to 1,522 feet AMSL. Otay Valley and Otay River traverse the northerly service area boundary. The majority of this area (approximately 60 percent) is agricultural; the remaining portions consist of urban areas and the following vegetation types: coastal sage scrub, chaparral, riparian, and grassland.

Chapter 3 PROJECT DESCRIPTION

3.1 Introduction

This PEIR has been prepared in compliance with the procedural and substantive requirements of CEQA (Public Resources Section 21000, et seq.) and the State of California CEQA Guidelines (California Code of Regulations [CCR], Section 15000 et seq.) to address the potential environmental impacts resulting from implementation of the OWD 2015 WFMP Update. OWD is the Lead Agency for the preparation of this PEIR, as defined in CEQA Guidelines §15367.

The purpose of this chapter is to describe the proposed project for the public, reviewing agencies and decision-makers. According to CEQA Guidelines Section 15124, a complete project description must contain the following information: (a) the precise location and boundaries of the proposed project, shown on a detailed map, along with a regional map of the project's location; (b) a statement of the underlying purpose of the project and the objectives (or goals) sought by the proposed project; (c) a description of the project's technical, economic, and environmental characteristics; and (d) a discussion of the intended uses of this PEIR, including discretionary actions (refer to Chapter 1, Introduction, of this PEIR).

3.2 Project Location

As shown in Figure 3-1, the OWD service area is regionally located within south central San Diego County, and is bounded by rural lands to the east, the Padre Dam Municipal Water District to the north, the Helix Water District to the northwest, the Sweetwater Authority and the city of San Diego to the west, and the U.S./Mexico International Border to the south. There are several major transportation routes through which access across the OWD service area is possible, including I-8, SR- 54, and SR-94 in the north; I-805 to the west; and SR-125 in the north and south.

The OWD service area consists of 80,320 acres (125.5 square miles), and provides water service to approximately 217,000 residents. The OWD boundaries encompass a large portion of eastern Chula Vista, a portion of the city of San Diego on Otay Mesa, and various unincorporated areas, including Rancho San Diego, Jamul, Spring Valley, Bonita, Otay Mesa, and areas adjacent to El Cajon and La Mesa. An additional 11 square miles on the OWD's eastern flank are designated by the San Diego Local Area Formation Commission (LAFCO) as being within the OWD's Area of Influence (AOI) (also known as Sphere of Influence, or SOI), but outside its current active service area.

The OWD water service area is divided into five distinct water service areas (Figure 3-2). The three northernmost service areas – Hillsdale, La Presa and Regulatory – are collectively referred to as the North District (Figure 3-2a through Figure 3-2c). The two southernmost service areas – Central and Otay Mesa – are collectively referred to as the South District (Figure 3-2d through Figure 3-2e). The North District serves

San Diego County communities above Sweetwater Reservoir; and, the South District serves the Chula Vista and Otay Mesa.

In addition to water supply, OWD also provides sewage collection, treatment, and disposal services to users within a small portion of the North District. OWD provides sewer service only within the Jamacha drainage basin in the northern portion of its service area where it also operates a small water reclamation plant. Sewer service for the remainder of the area within OWD boundaries is provided by other public entities. OWD also maintains and operates a recycled water system in the South District, primarily within the eastern portion of Chula Vista, in OWD's Central service area.

3.3 Background

OWD was authorized as a California Special District by the State Legislature in 1956, under the provisions of the Municipal Water District Law of 1911, and thereby gained its entitlement to imported water. As a member agency of SDCWA, OWD purchases all of the potable water that it delivers from the SDCWA. The SDCWA is responsible for transmission of the imported water supply within San Diego County to its member agencies, and is itself a member of the Metropolitan Water District of Southern California.

The existing potable water supply to OWD comes from the SDCWA through four separate connections to Pipeline No. 4 within the Second Aqueduct route of the SDCWA Flow Control Facility. OWD also receives treated potable water from the R.M. Levy Water Treatment Plan (WTP), which is operated by the Helix Water District. The Ralph W. Chapman Water Recycling Facility operated by OWD and the South Bay Water Reclamation Plant operated by the City of San Diego both supply recycled water for users within the OWD service area.

In 2002, OWD developed a comprehensive WRMP that combined all previously existing master plans and facility plans into one system-wide plan outlining the CIP projects required to serve their customers. In 2009, OWD updated the WRMP. The following three phases were identified in the 2009 WRMP Update: Phase I (2015-2016), Phase II (2017-2022), Phase IIIA (2023-2050), and Phase IIIB (2023-2050). Minor updates to the 2009 WRMP were completed in 2010 and 2013.

Since 2002, OWD has continued to improve its potable water facilities to meet the water demands associated with growth. OWD has also continued to improve and expand its recycled water facilities to serve irrigation demands and conserve potable water supplies. The CIP is updated annually to reflect system improvements and to identify future needs for budgeting purposes.

OWD has explored opportunities to expand its local resources as a means to offset the risk of interrupted imported water supplies. To address the uncertainties surrounding imported water supplies due to potential drought shortages or emergency seismic conditions, in addition to the rising costs of imported water, OWD has prepared an IRP to develop a flexible, long-term strategy for its future supply portfolio. The IRP defines a course for OWD's development of local water supply projects. To the extent the supply plans identified in the IRP affect the planning of OWD's potable and recycled water systems, they are incorporated into the Master Plan.

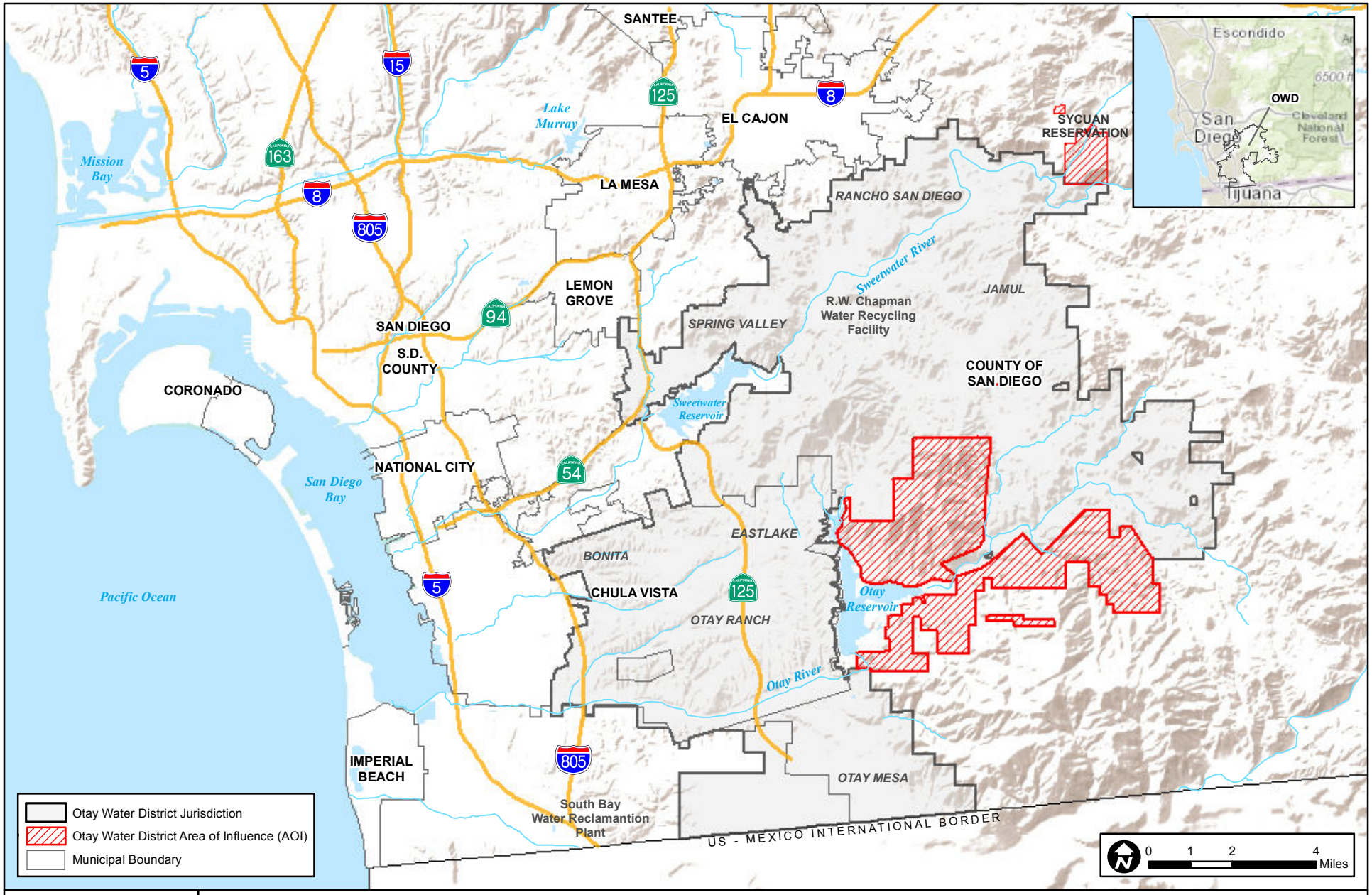

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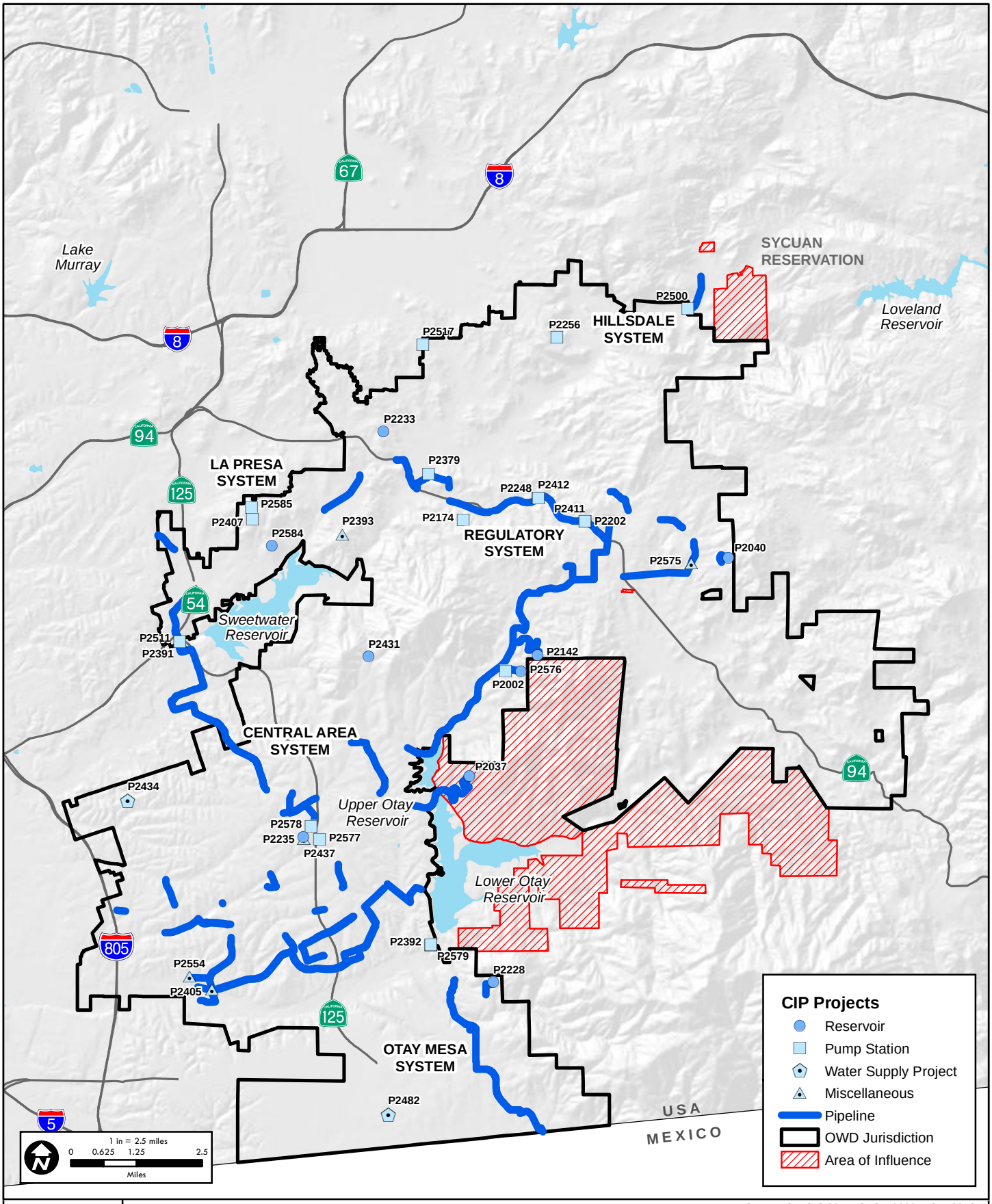
Figure 3-1
Regional Location Map

Source: Atkins 2014, SanGIS 2014

100038569 2015 OWD WFMP Update

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 3-1 Regional Location Map.mxd



Source: SanGIS 2014, CASIL 2009, ESRI 2016

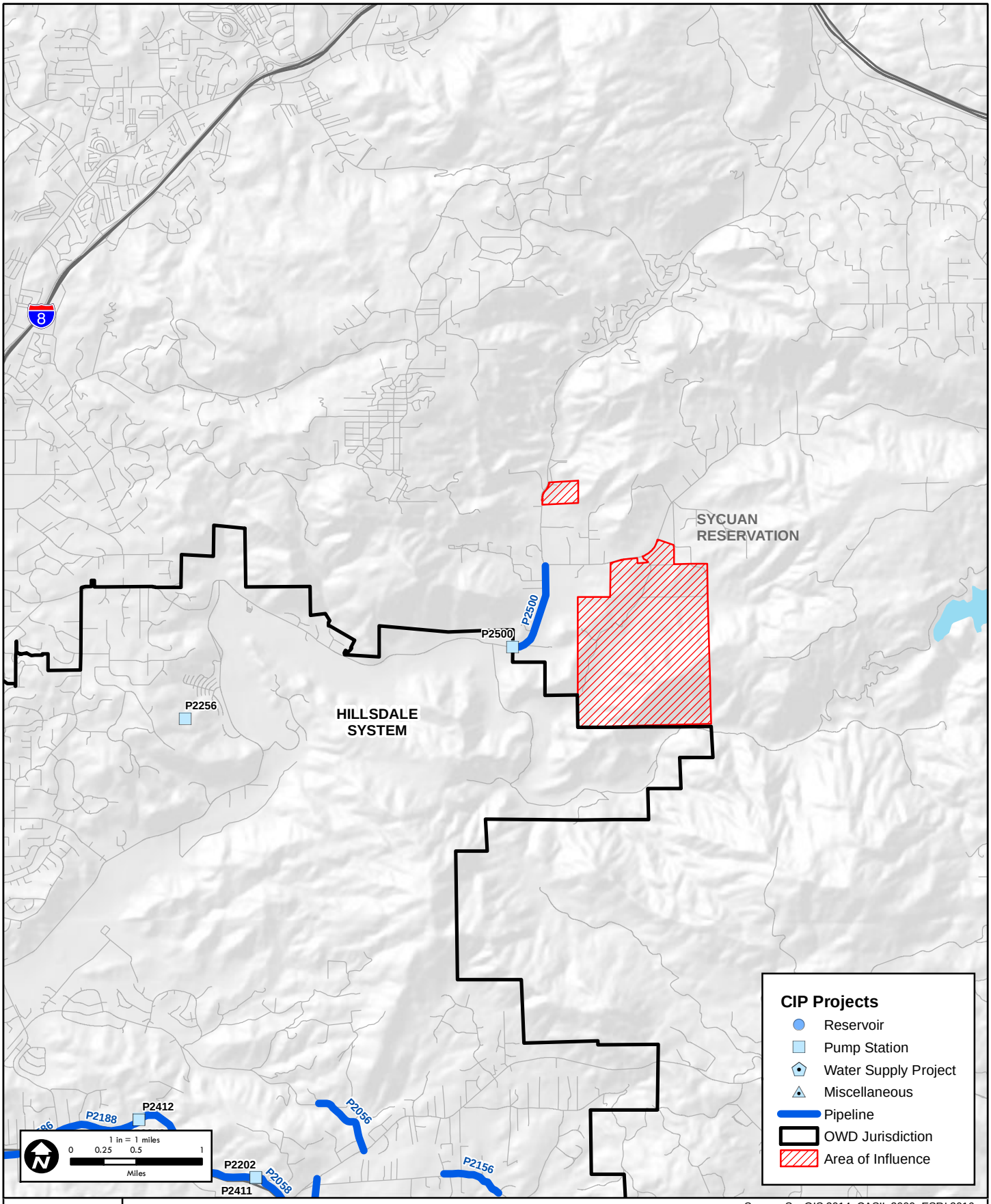
ATKINS

Figure 3-2

2015 WFMP Planning Area & CIP Projects

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 3-2 WFMP Planning Area CIP Projects Coversheet.mxd



Source: SanGIS 2014, CASIL 2009, ESRI 2016

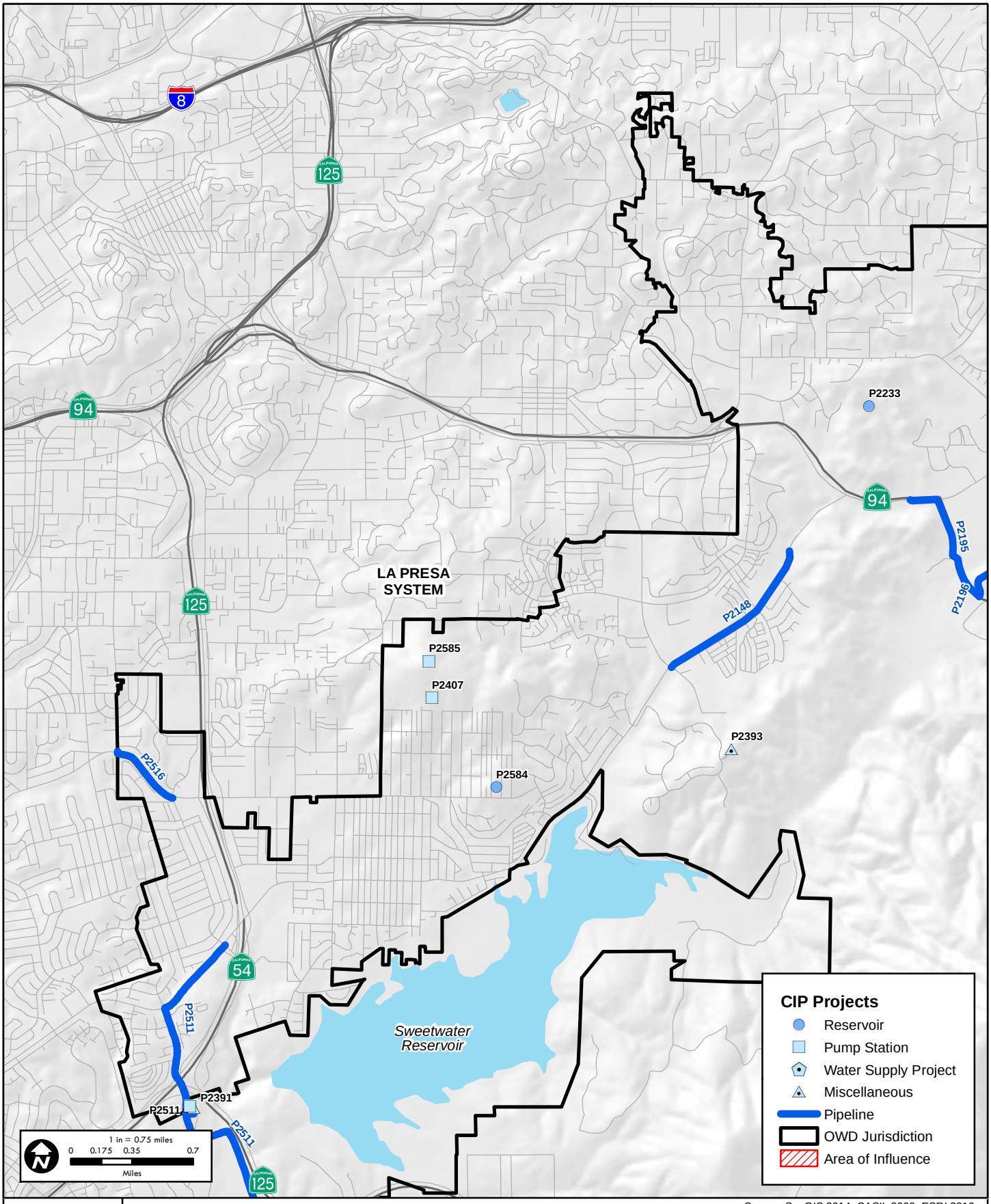
ATKINS

Figure 3-2a

2015 WFMP Planning Area & Hillsdale CIP Projects

100038569 2015 OWD WFMP Update - EIR

7/22/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 3-2 WFMP Planning Area CIP Projects Mapbook.mxd



Source: SanGIS 2014, CASIL 2009, ESRI 2016

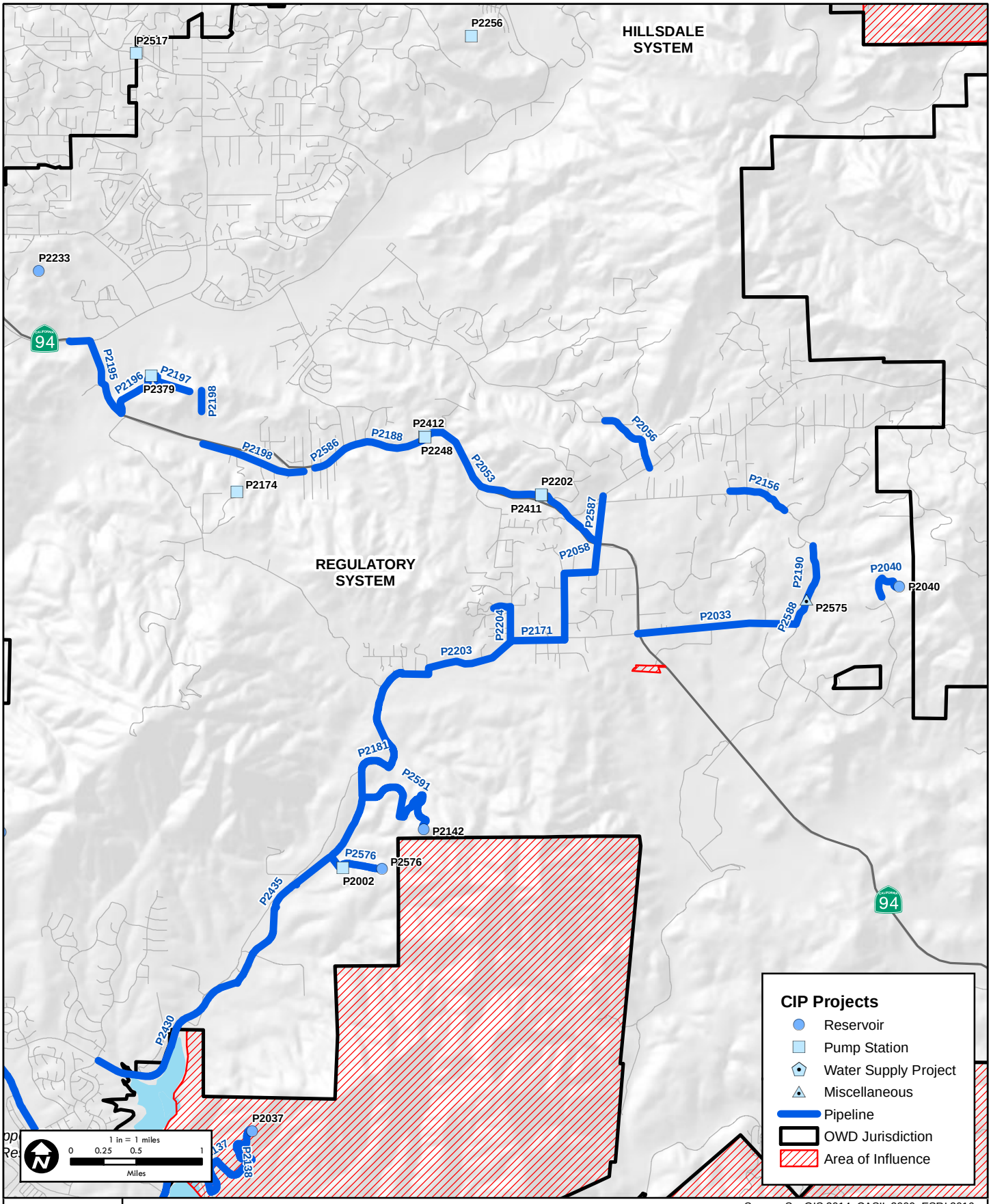
ATKINS

Figure 3-2b

2015 WFMP Planning Area & La Presa CIP Projects

100038569 2015 OWD WFMP Update - EIR

7/22/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 3-2 WFMP Planning Area CIP Projects Mapbook.mxd



Source: SanGIS 2014, CASIL 2009, ESRI 2016

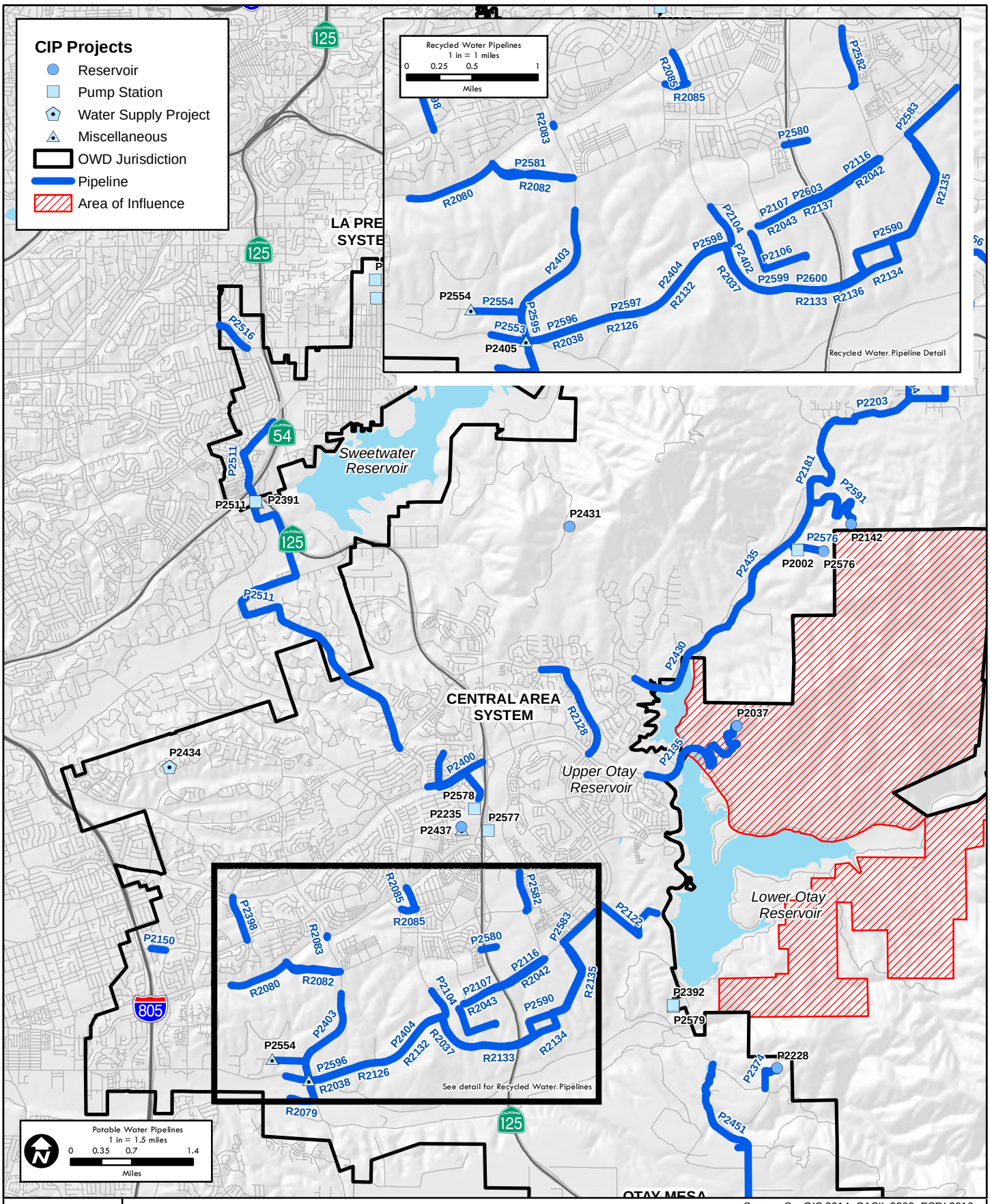
ATKINS

Figure 3-2c

2015 WFMP Planning Area & Regulatory CIP Projects

100038569 2015 OWD WFMP Update - EIR

7/22/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 3-2 WFMP Planning Area CIP Projects Mapbook.mxd



Source: SanGIS 2014, CASIL 2009, ESRI 2016

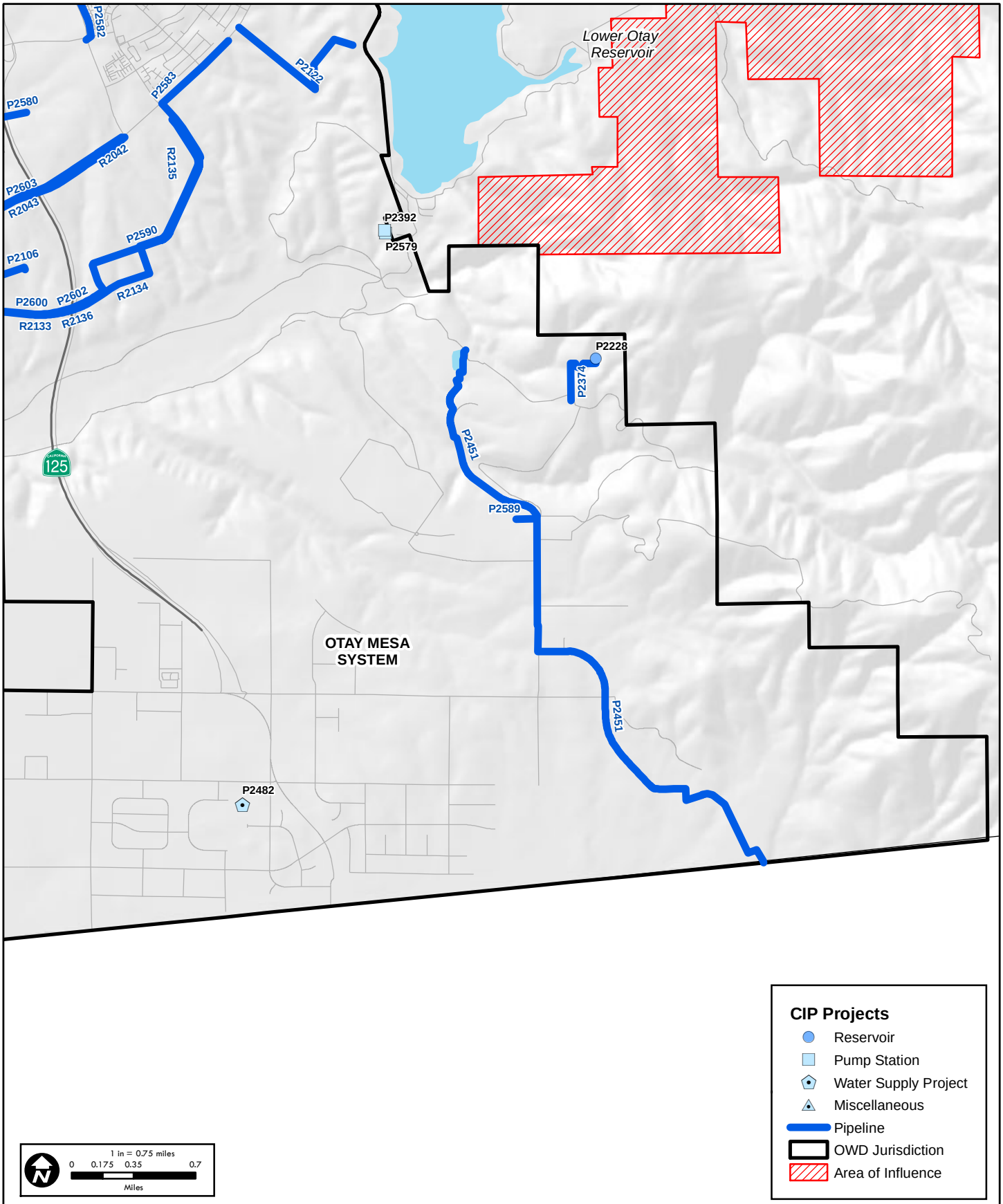
ATKINS

Figure 3-2d

2015 WFMP Planning Area & Central Area CIP Projects

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 3-2d WFMP PlanningArea CIP Projects.mxd



Source: SanGIS 2014, CASIL 2009, ESRI 2016

ATKINS

Figure 3-2e

2015 WFMP Planning Area & Otay Mesa CIP Projects

100038569 2015 OWD WFMP Update - EIR

7/22/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 3-2 WFMP Planning Area CIP Projects Mapbook.mxd

3.4 Water Facilities Master Plan

3.4.1 Purpose

The purpose of the 2015 WFMP is to revise the OWD 2009 WRMP; update planning criteria and OWD's hydraulic system models; map out water and recycled water facility improvements; update OWD's CIP; and identify adaptive responses to changed conditions.

The WFMP's forecast is based on the latest regional growth forecasts developed by the San Diego Association of Governments (SANDAG), and is consistent with the adopted land use plans of all jurisdictions within the district boundaries. OWD coordinates with these jurisdictions through its development of Urban Water Management Plans, and through other ongoing coordination to ensure land use plans account for the availability of water supplies and water service infrastructure. Consistent with the LAFCO AOI designation, the 2015 WFMP Update accounts for projected development within the AOI to the extent consistent with adopted land use plans and to the extent these lands are expected to annex into the OWD. These areas include the Otay Ranch Villages 13 and 15~~14~~, and the San Ysidro Mountain Ranch/Planning Area 17 area. The AOI also includes the Sycuan Indian Reservation, located to the northeast of the OWD service boundary, but these lands are not included in the demand forecast.

3.4.2 Goals and Objectives

The primary goals and objectives for the 2015 WFMP Update include the following actions:

- **Update Planning Criteria and the District's Hydraulic System Models**: Review and update, as necessary, the District's system performance criteria, and update the District's InfoWater system hydraulic models to account for new development and to maintain integration with the District's GIS system.
- **Map Out Water and Recycled Water Facility Improvements:** Identify and prioritize the District's facility needs, including transmission, storage, and pumping facilities, to serve projected future conditions.
- **Update OWD CIP:** Update the District's near-term (2020) and long-term (2050) CIP, based on a new demand forecast, new supply options and identified facility needs.
- **Identify Adaptive Responses to Changed Conditions:** Identify how needed facility improvements and CIP items would change should future demand and supply conditions vary from baseline assumptions.

3.4.3 Facilities Overview

The CIP projects identified in the 2015 WFMP Update can be classified into five general categories: storage, pump station, pipeline, water supply, and miscellaneous CIP projects. The following is an overview of definitions, issues, and construction information associated with each of these categories. Details for each category of projects are provided in Section 3.4.4, with the exception of miscellaneous CIP projects, which are described in Table 3-1.

Storage

Storage projects generally involve the construction and/or alteration of water-holding reservoirs. Typical reservoir sites consist of a storage tank (reservoir) constructed on a level, graded pad; underground water supply and delivery pipelines; fencing for security purposes; and an access road for maintenance purposes. Placement of storage projects is essential, because optimizing the elevation at which a storage project is located can greatly increase efficiency by reducing the amount of pumping (energy) needed to move water to and from the reservoir. In general, reservoir capacity is reported in units of millions of gallons (MG).

Pump Stations

Pump station projects involve the movement of water uphill, or to higher pressure zones, and pressure reducing valves are used when water is moving to lower pressure zones (downhill). Pump stations typically consist of buildings containing pumps, electric power-line connections, pipeline connections, fencing, and access roads. Pressure reducing valves are installed along pipelines. In general, pump capacity is reported in units of gallons per minute (gpm) or millions of gallons per day (MGD).

Pipeline

Pipeline projects involve trench excavation, preparing the bed for pipe placement, laying the pipe in the trench, filling the trench, and restoring the disturbed surface area. Where it is not feasible to install a pipeline within a street right-of-way, OWD makes every effort to use the shortest possible route between connection points to minimize ground-level impacts. In this practice, OWD considers factors such as engineering principles and site-specific constraints. The CIP pipeline projects identified in the 2015 WFMP Update include transmission and distribution lines. Transmission lines generally transport large quantities of water over broad areas. Distribution lines generally have lower capacities, and transport water to specific locations. For example, recycled water delivered from the City of San Diego South Bay Water Reclamation Plant travels through a transmission line to several reservoirs within the OWD service area. From these reservoirs, distribution pipelines deliver the recycled water to the various communities. Pipeline size is generally reported in inches, which refers to the pipe's diameter.

Water Supply

Water supply projects involve a variety of project types, including pipelines, desalination facilities, and groundwater well production systems.

Miscellaneous CIP

Similar to the water supply projects described above, the miscellaneous CIP projects involve a variety of project types, including a disinfection facility, a pressure reducing station~~groundwater well system~~, and an interconnection facility (see Table 3-1).

Table 3-1 Miscellaneous CIP Projects

Project No.	System	Project Description	Phase
P2405	Central	PL - 624/340 PRS, Heritage Road and Hard Rock Road	II
P2437	Central	Dis 624-4 Disinfection Facility	IIIA
P2517	Hillsdale	Helix - Otay Interconnection, Chase Avenue	IIIA
P2575	Regulatory	1485/1296 PRS – Presilla Drive and Jamul Highlands Road	IIIA

~~***Phase IIIA (2023 - 2050) – Projects Required Under Baseline Supply Assumptions***~~			
~~P2437~~	~~Central~~	~~Dis 624-4 Disinfection Facility~~	~~--~~
~~P2482~~	~~Otay Mesa~~	~~Otay Mesa Lot 7 Groundwater Well System~~	~~--~~
~~P2517~~	~~Hillsdale~~	~~Helix - Otay Interconnection, Chase Avenue~~	~~--~~

3.4.4 Description of Projects

The projects identified in the 2015 WFMP Update include many of the improvements that are contained in the approved 2009 WRMP Update.

3.4.4.1 Potable Water System

The potable water system improvements recommended in the 2015 WFMP Update would consist of several major pump stations, reservoirs and transmission mains to expand service throughout the district and resolve existing storage, pumping and water supply deficiencies (Table 3-2 through Table 3-5). Please note that any distribution pipelines and laterals connecting to the CIP transmission mains are considered "developer projects," and, therefore, would be the development project proponent's responsibility to plan, fund, and install. Such pipelines would typically be 12-inch and smaller in diameter and serve specific customers. As a result, some of the recommended CIP transmission main alignments identified in the 2015 WFMP Update may change as development plans are revised or refined in the future. As development projects are proposed, the developers will be required to prepare Sub-Area Master Plans. These plans define the distribution pipelines required to serve developer projects, and either confirm or revise the sizes and locations of the necessary regional CIP facilities identified in the 2015 WFMP Update.

Storage Projects

The CIP potable water storage projects shown on Figure 3-2a and listed in Table 3-2 are required in order to meet the Phase II, Phase IIIA and Phase IIIB storage needs of the OWD potable water system.

Table 3-2 Potable Water Storage CIP Projects(1)

Project No.	System	Project Description	Capacity (MG)
Phase II (2017 - 2022)			
P2040	Regulatory	Res - 1655-1 Reservoir, 0.5 MG	0.5
		Total Phase II	**0.5**
Phase IIIA (2023 – 2050) – Projects Required Under Baseline Supply Assumptions			
P2584	La Presa	Res - 657-1 and 657-2 Reservoir Demolitions	--
P2037	Central	Res - 980-3 Reservoir, Resort Parcel, 4.0 MG (previously 13 MG)(1)	4
P2142	Regulatory	Res - 1296-4 Reservoir, Village 14, 2.0 MG	2
P2431	Central	Res - 980-4 Reservoir, 8.0 MG (previously 5 MG)(2)	8
P2576	Central	Res - 980-5 Reservoir, Village 14, 2.0 MG(3)	2
		Total Phase IIIA	**16.0**
Phase IIIB (2023 – 2050) – Projects Required without Assumed New Supply Source(s)			
P2228	Otay Mesa	Res - 870-2 Reservoir, 7.0 MG (previously 10 MG)	7
P2233	La Presa	Res - 640-3 Emergency Reservoir, 10.0 MG	10
P2235	Central	Res - 624-4 Emergency Reservoir, 30.0 MG (previously 40 MG)	30
		Total Phase IIIB	**47.0**
		Total Phases II & III	**63.5**

Table 3-2 Potable Water Storage CIP Projects[1]

Project No.	System	Project Description	Capacity (MG)

[1] Village 13 Resort Reservoir.
[2] This reservoir will replace Reservoir 980-1 and provide increased zone emergency storage.
[3] New Village 14 Reservoir at 980 elevation co located with 1296-2 PS

Pump Station Projects

The CIP potable water pump station projects shown on Figure 3-2a and listed in Table 3-3 are required in order to meet the Phase II, Phase IIIA and Phase IIIB pumping needs of the OWD potable water system.

Table 3-3 Potable Water Pump Station CIP Projects[1]

Project No.	System	Project Description	Capacity (gpm)
Phase II (2017 – 2022)			
P2393	La Presa	PS - Pointe Hydro Pump Station Expansion, from 240 to 400 gpm	6~~4~~00
P2579	Central	PS - Temporary Lower Otay Pump Station Rehabilitation	-
P2174	Regulatory	PS - 1090-1 Pump Station Replacement and Expansion, from 280 to 400 gpm	400
		Total Phase II	**1,000~~800~~**
Phase IIIA (2023 – 2050) – Projects Required Under Baseline Supply Assumptions			
P2002	Regulatory	PS - 1296-2 Proctor Valley Pump Station, 4,000 gpm	4,000
P2256	Hillsdale	PS - 978-2 Pump Station, 1,500 gpm	1,500
P2391	Central to La Presa	PS - Perdue WTP Pump Station, 10,000 gpm	10,000
P2577	Central	PS - 980-2 Pump Station Expansion, from 12,000 to 16,000 gpm	16~~4~~,000
P2578	Central	PS - 711-2 Pump Station (PS 711-1 replacement), from 10,000 to 16~~4~~,000 gpm[1]	16~~1~~4,000
P2585	La Presa	PS - 1200-2 Pump Station, 1,000 gpm	1,000
P2202	Regulatory	PS - 1296-1 Pump Station Expansion, from 2,900 to 6,000 gpm	6,000~~6,450~~
P2248	Regulatory	PS - 944-1 Pump Station Expansion, from 3,000 to 6,000 gpm	6,000
P2379	Regulatory	PS - 832-1 Pump Station Expansion, from 4,200 to 6,800 gpm	6,800
P2411	Regulatory	PL - 1296/944 PRS Upgrade 1296-1 Pump Station Site	--
P2412	Regulatory	PL - 944/832 PRS Upgrade 944-1 Pump Station Site	--
		Total Phase IIIA	**67,300~~53,750~~**
Phase IIIB (2023 – 2050) – Projects Required without Assumed New Supply Source(s)			
P2392	Central	PS - Lower Otay PS Replacement and Expansion, from 12,500 to 18,000 gpm[2]	18,000
		Total Phase IIIB	**18,000**
		Total Phases II & III	**86,300~~72,550~~**

[1] Includes new suction manifold to new pump station.
[2] Depending on new supply (Desalinated Water vs San Diego Pure Water) a new pump station is required to convey water from either City of San Diego WTP or from Rosarito Desalinated Water Conveyance Project.

Pipeline Projects

The CIP projects listed in Table 3-4 are required in order to meet the Phase II, Phase IIIA and Phase IIIB transmission pipeline needs of the OWD potable water system. For the CIP projects involving pipeline installation within existing roads, OWD has and will continue to coordinate with local jurisdictions to

ensure the timing of this work is coincident with roadway improvements performed under a local agency public improvement or CIP project. For the CIP projects involving installation of new pipelines within newly constructed roads, OWD has and will continue to coordinate with the private developers responsible for new road construction to ensure concurrent timing of both projects. Since many of these CIP pipeline projects are assumed to be installed concurrently with existing road improvements by local agencies or new road construction by private developers, they would not require open cut and traffic control. In the event the timing of pipeline installation within existing roadways does not coincide with the local agency public road improvements, then open cut trenching and traffic control measures would be required.

Table 3-4 Potable Water Pipeline CIP Projects

Project No.	System	Project Description	Length (ft)
Phase II (2017 – 2022)			
P2400	Central	PL - 20-in Pipeline Replacement, 711 Zone, Otay Lakes Road at Santa Paula	3,800
P2403	Central	PL - 12-in, 624 Zone, Heritage Road - Olympic/Otay Valley	5,300
~~P2405~~	~~Central~~	~~PL - 624/340 PRS, Heritage Road and Hard Rock Road~~	~~–~~
P2451[1]	Otay Mesa	Otay Mesa Desalination Conveyance and Disinfection System	22,000
P2516	La Presa	PL - 12-in, 640 Zone, Jamacha Road - Darby/Osage	2,500
P2553	Central	Heritage Road Bridge Replacement ~~and~~ Utility Relocation	--
P2574	Hillsdale	PL - 12-Inch and 14-inch Pipeline Replacement, 803 and 978 Zone, Vista Grande, Pence Drive	6,900
P2595	Central	PL – 16-inch, 624 Zone, Village 3N – Heritage Road, Main St/Energy Way	1,200
		Total Phase II	**41,700~~33,600~~**
Phase IIIA (2023 – 2050) – Projects Required Under Baseline Supply Assumptions			
P2104	Central	PL - 12-in, 711 Zone, La Media Road - Birch/Rock Mountain	1,800
P2106	Central	PL - 12-in, 711 Zone, La Media Road - Rock Mountain/Otay Valley	3,400~~4,500~~
P2107	Central	PL - 16-in, 711 Zone, Rock Mtn Road - La Media Road (previously 12-in)	2,400~~3,800~~
P2116	Central	PL - 16-in, 711 Zone, Rock Mtn Road - SR 125/EastLake Pkwy (previously 12-in)	3,000
P2135	Central	PL - 20-in, 980 Zone, Otay Lakes Road to Village 13	5~~4~~,500
P2137	Central	PL - 20-in, 980 Zone, Village 13 to 980-3 Reservoir	3,500~~2,600~~
P2138	Central	PL - 20-in, 980 Zone, 980-3 Reservoir Transmission PL	2,200~~1,600~~
P2148	La Presa	PL - 16-in, 850 Zone, Jamacha Boulevard - Sweetwater Springs/Trace	5,200
P2150	Central	PL - 16-in, 458 Zone, East Palomar Street - Medical Center/Raven	900
P2156	Regulatory	PL - 12-in, 1485 Zone, Olive Vista Drive Parallel	2,500
P2190	Regulatory	PL - 12-in, 1485 Zone, Jamul Highlands	2,300~~1,500~~
P2398	Central	PL - 20-in, 624 Zone, Paseo Ladera between Telegraph/Olympic Upsizing	2,800~~2,780~~
P2402	Central	PL - 16-in, 624 Zone, La Media Road - Village 7/Otay Valley	2,500~~6,700~~
P2404	Central	PL - 12-in, 624 Zone, Rock Mtn Road - Village 4/Otay Valley	3,600~~10,000~~
P2500	Hillsdale	Padre Dam - Otay Interconnection, Dehesa Valley	3,900
P2511[1]	La Presa / Central	PL – Otay Interconnect (North District - South District Interconnection)	31,000
P2528	Central	PL – 30-inch, 624 Zone, Manifold between Res 624-1 & 624-2	8,000
P2554	Central	PL – 12-in. and 624/340 PRS at Energy Way and Nirvana Avenue ~~624/340 PRS at Energy Way and Nirvana Avenue~~	2,000~~--~~
~~P2575~~	~~Regulatory~~	~~1485/1296 PRS - Presilla Drive and Jamul Highlands Road~~	~~500~~
P2583	Central	PL - 20-in, 624 Zone, Otay Mesa Interconnect 711 PRS Bypass	5,800
P2589	Otay Mesa	PL - 24-in, 871 Zone, Donovan Prison	600
P2590	Central	PL - 20-in, 624 Zone, Village 7	6,400~~5,800~~
P2033	Regulatory	PL - 16-in, 1296 Zone, Melody Road - Campo/Presilla	6,400

Table 3-4 Potable Water Pipeline CIP Projects

Project No.	System	Project Description	Length (ft)
P2053	Regulatory	PL - 20-in, 944 Zone, Campo Road - 944-1 Pump Station/944 Reservoirs	5,800
P2056	Regulatory	PL - 12-in, 1296 Zone, Jamul Drive Replacement	3,000~~2,100~~
P2058	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Road - Pioneer/Campo (previously 24-in)	8,000~~7,900~~
P2122	Central	PL - 20-in, 711 Zone, OTC to Hunte Parkway	5,500~~5,800~~
P2171	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Road - Pioneer/Melody (previously 30-in)	2,200
P2181	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Road - Proctor Valley PS/Millar Ranch (previously 30-in)	10,500~~10,000~~
P2188	Regulatory	PL - 24-in, 832 Zone, Campo Road - Steele Canyon/944-1 Pump Station	3,400
P2197	Regulatory	PL - 24-in, 832 Zone, 832-1 Pump Station to 832 Reservoirs	1,800
P2198	Regulatory	PL - 24-in, 832 Zone, 832 Reservoirs to Fair Oaks Drive	5,100
P2203	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Road - Melody (previously 30-in)	5,000~~3,100~~
P2204	Regulatory	PL - 20-in, 1296 Zone, Pioneer Way - Proctor Valley/1296 Reservoirs (previously 24-in)	3,100
P2407	La Presa	Dictionary Hill Fireflow Capacity pipeline Improvements	--
P2430	Central	PL - 20-in in Proctor Valley Road	8,500
P2435	Central	PL - 20-in, 980 Zone, Proctor Valley Road to Proctor Valley PS	6,500~~8,500~~
P2580	Central	PL - 12-in, 980 Zone, Bob Pletcher Pkwy 125 Freeway Crossing	1,000
P2581	Central	PL - 16-in, 624 Zone, Santa Victoria Road - Olympic/Heritage	3,600
P2582	Central	PL - 20-in, 711 Zone, Eastlake Pkwy between Olympic and Birch Upsizing	2,500~~2,400~~
P2586	Regulatory	PL - 24-in, 832 Zone, Campo Road - Florence Terrace / Steele Canyon	1,500
P2587	Regulatory	PL - 16-in, 1296 Zone, Jefferson Road - Campo/Lyons Valley	1,900
P2588	Regulatory	PL - 12-in, 1296 Zone, Jamul Highlands Road to Presilla Drive	1,100
P2591	Regulatory	PL - 16-in, 1296 Zone, Proctor Valley to 1296-4 Reservoir	9,500~~5,800~~
P2596	Central	PL - 16-inch, 624 Zone, Village 3N - Main St, Heritage Rd/Wolf Canyon	3,200
P2597	Central	PL - 16-inch, 624 Zone, Main St, Wolf Canyon Bridge	1,500
P2598	Central	PL - 16-inch, 624 Zone, Village 8W - Main St, La Media/Village 4	1,000
P2599	Central	PL - 16-inch, 624 Zone, Village 8W - Otay Valley Rd, School/Village 8E	900
P2600	Central	PL - 16-inch, 624 Zone, Village 8E	2,100
P2602	Central	PL - 16-inch, 624 Zone, Otay Valley Rd, SR 125 Bridge	500
P2603	Central	PL - 16-inch, 711 Zone, Hunte Parkway, SR 125 Bridge	600
		Total Phase IIIA	**205,000~~166,780~~**
Phase IIIB (2023 – 2050) – Projects Required without Assumed New Supply Source(s)			
P2195	Regulatory	PL - 24-in, 640 Zone, Campo Road - Regulatory Site/Millar Ranch	4,100
P2196	Regulatory	PL - 24-in, 640 Zone, Millar Ranch Road to 832-1 Pump Station	2,200
P2374	Otay Mesa	PL - 30-in, 870 Zone, 870-2 Reservoir to 870-1 Reservoir	400
		Total Phase IIIB	**6,700**
		Total Phases II & III	**253,400~~209,080~~**

(1) CEQA environmental review has been completed.

3.4.4.2 Recycled Water System

The recycled water system improvements recommended in the 2015 WFMP Update would consist of several major pump stations, reservoirs and transmission mains to expand service throughout OWD and resolve existing storage and pumping deficiencies. As with the potable water system, any distribution pipelines and laterals connecting to the CIP recycled water transmission mains would be the development

project proponent's responsibility to plan, fund, and install. Some of the recommended CIP transmission main alignments identified in the 2015 WFMP Update may change as development plans are revised or refined in the future; however, it is assumed for purposes of analysis in this PEIR that they would be installed within planned roadways.

Storage, Pipeline and Pumping Projects

The CIP projects listed in Table 3-5 are required in order to meet the Phase II and Phase IIIA storage and pumping needs of the OWD recycled water system.

Table 3-5 Recycled Water CIP Projects

Project No.	System	Project Description	Length (ft)
Phase I (Present – 2026)			
R2125	Central	RecPRS - 927/680 PRS Improvements, Otay Lakes Road (Automation/SCADA)	
R2084	Central	RecPL - 20-in, 680 Zone, Village 2 - Heritage/La Media	2,000~~3,000~~
R2028	Central	RecPL - 8-in, 680 Zone, Heritage Road to Main Street	6,300
R2047	Central	RecPL - 12-in, 680 Zone, La Media Road - Birch/Rock Mountain	1,300
R2127	Central	RecPL - 8-in, 815/680 Zones, Main Street - La Media/Magdalena, 815/680 PRS	1,700~~1,400~~
		Total Phase I	**11,300~~12,000~~**
Phase IIA (2027 – Ultimate)			
R2129	Central	RecPS - 680-1 PS Upgrade, Engine-Driven Pump Addition	-
R2130	Central	RecPS - 944-1 PS Upgrade, Engine-Driven Pump Addition	-
		Total Phase IIA	**-**
Phase IIB (2027 – Ultimate)			
R2080	Central	RecPL - 24-in, 680 Zone, Olympic Parkway between Brandywine/Santa Victoria	3,800~~3,700~~
R2082	Central	RecPL - 24-in, 680 Zone, Santa Victoria - Olympic Parkway/Heritage	3,500
R2083	Central	RecPL - 20-in, 680 Zone Olympic Parkway - Heritage Rd	110
R2085	Central	RecPL - 20-in, 680 Zone, La Media - State/Olympic	2,500
R2128	Central	RecPL - 16-in, 944 Zone, Hunte Pwy/Proctor Valley Rd - North of Otay Lakes Rd	7,300
		Total Phase IIB	**17,210~~17,110~~**
Phase IIC (2027 – Ultimate)			
R2037	Central	RecPL - 8-in, 680 Zone, La Media Road - Rock Mountain/Hunte Parkway	4,400~~13,900~~
R2038	Central	RecPL - 8-in, 680 Zone, Village 3N - Main St, Heritage Rd/Wolf Canyon	3,300~~3,200~~
R2042	Central	RecPL - 8-in, 815 Zone, Hunte Parkway - SR-125/Eastlake	2,700
R2043	Central	RecPL - 8-in, 815 Zone, Rock Mountain Road - Olympian HS/SR 125	1,000
R2079	Central	RecPL - 6-in, 450 Zone, Otay Valley Road, Entertainment, 680/450 PRS	3,000~~4,000~~
R2126	Central	RecPL - 8-in, 680 Zone, Main Street - Wolf Canyon Bridge	1,500
R2131	Central	Res - 680-2 Storage Reservoir (2.0 MG) (At Sunset View Park)	-
R2132	Central	RecPL - 8-in, 680 Zone, Main Street - Village 4	3,600
R2133	Central	RecPL - 8-in, 680 Zone, Otay Valley Road - Village 8E	2,100
R2134	Central	RecPL - 8-in, 680 Zone, Otay Valley Road - Village 9	4,000
R2135	Central	RecPL - 8-in, 680 Zone, University/Village 10	4,200
R2136	Central	RecPL - 8-in, 680 Zone, Otay Valley Road, SR 125 Bridge	500
R2137	Central	RecPL - 8-in, 815 Zone, Hunte parkway, SR 125 Bridge	600
		Total Phase IIC	**30,900~~41,300~~**
		Total Phase II	**48,110~~58,400~~**
		Total Phases I & II	**59,410~~70,410~~**

3.4.4.3 2008 WRMP Water Supply Projects

Section 3.4.4.3 of the 2008 WRMP PEIR identified water supply projects which remain under consideration for future development. Table 3-6 below lists five of the projects that were carried forward from the 2008 WRMP that were either previously evaluated or will be evaluated separately under CEQA. These projects will not be evaluated further in this document.

3 6	
Project No.	**Project Description**
R2089[1]	North District Recycled Water Concept
R2093	City of Chula Vista Tertiary Treatment Stripping Plant
R2450	San Diego Formation Brackish Groundwater Demineralization Project
R2481	Middle Sweetwater Conjunctive Use Project
R2482[1]	Otay Mesa Lot 7 Groundwater Well
[1] Evaluated under the 2008 WRMP PEIR.	

R2089. The North District Recycled Water Concept would involve the use of recycled water within the Middle Sweetwater River Basin to supply this water to the North District markets. This project would consist of the installation of 6-inch, 8-inch, or 10-inch diameter recycled water pipelines from the existing R.W. Chapman Water Recycling Facility to nearby users. The project would also entail the installation of pipelines within existing right-of-ways to feed into two existing recycled water storage tanks, Res 832-1 and Res 832-2.

R2093. The City of Chula Vista Tertiary Treatment Stripping Plant Project would involve construction of a tertiary treatment plant and pipeline to produce and deliver recycled water for delivery to customers in the Central area. The locations of these project components have not been determined at this time. The City of Chula Vista would be the CEQA Lead Agency for this project.

P2450. The San Diego Formation Brackish Groundwater Demineralization Project would involve potential extraction of brackish groundwater from the San Diego Formation. The locations of the demineralization treatment and transport facilities have not been determined at this time. The OWD would be the CEQA Lead Agency.

P2481. The Middle Sweetwater Conjunctive Use Project could produce a sustainable yield of local potable water supply (possibly up to 2,500 AF/yr). The precise location of this project has not been determined at this time. The OWD would be the CEQA Lead Agency.

P2482. The Otay Mesa Lot 7 Groundwater Well Development Project would involve the installation of a well and associated water treatment system within an industrial area located in south Otay Mesa.

3.4.5 Phasing

The potable water CIP phases for the 2015 WFMP include the following:

- **Phase I (2015-2016).** These include projects that are currently in design or under construction. An example of such a project is the 870-2 pump station replacement project under design. These

projects are noted but are not included in the PEIR because environmental review has been addressed in previous documents.

- **Phase II (2017-2022).** These CIPs typically represent the high priority projects necessary to address a current water system deficiency and provide backbone infrastructure to support development projects. These projects are budgeted over a six year revenue cycle for the District and are included in the current water rate structure and capacity fee program. An example of such a project is the 980-3 reservoir expansion project necessary to increase storage in the 980 zone which is currently deficient.
- **Phase IIIA (2023-2050).** These CIPs represent projects that may not be urgent but are critical to meeting future growth, and water system design criteria and the District has sufficient time to implement the project. The horizon year for sizing infrastructure is SANDAG Series 13 population for year 2050. These projects present a long-term CIP that may be used by the District in formulating a 10-year revenue plan. An example of such a project is the 980-2 pump station expansion project necessary to increase pumping capacity based on forecasted water demand increases. It is assumed under Phase IIIA that the District's "baseline" assumption for water supply includes either the Rosarito Desalinated Water Conveyance Project or San Diego's Pure Water.
- **Phase IIIB (2023-2050).** Under Phase IIIB, the District's "baseline" assumptions for water supply, the Rosarito Desalinated Water Conveyance Project and San Diego's Pure Water, are not implemented and the District continues to rely on the SDCWA for water supply. These CIP projects primarily represent system reliability projects necessary to meet SDCWA outages and District system design criteria. An example of such a project is the 870-2 reservoir in Otay Mesa.

As shown in Table 3-5, the phasing for recycled water CIPs is different than the potable water CIP phasing. The recycled water projects are divided into two phases that corresponds with the contract renewal date with the City of San Diego for the purchase of recycled water from its South Bay Water Reclamation Plant. The terms of the contract renewal may influence the CIP's needed for recycled water. Phasing and timing for the recommended CIP projects may be accelerated or deferred as required to account for changes in development project schedules, availability of land or right-of-way for construction, project funding limitations, environmental concerns or other considerations.

3.4.6 Permits, Approvals, and Regulatory Requirements

Numerous federal, state and local regulations and permit requirements would be applicable to the implementation of the 2015 WFMP (Table 3-7). OWD, or its contractors, would be required to comply with all applicable requirements, unless by exception of Government Code Section 53091. Because zoning ordinances do not apply to the location or construction of facilities used for the production, generation, storage or transmission of water, this PEIR will address only those specific objectives, policies and standards from the planning agencies of communities potentially affected by the future CIP projects that support the implementation of water storage and transmission facilities.

Table 3-7 Potential Permits and Approvals

Agency/Department	Permit/Approval	Action Associated With or Required For
Federal Agencies		
U.S. Fish and Wildlife Service (USFWS)	Biological Assessment, Section 7 Consultation, Biological Opinion (Endangered Species Act [ESA] 16 U.S.C. 1531-1544)	Activity where there may be an effect on federally listed endangered/ threatened/ proposed species (applies to projects with federal involvement).
U.S. Army Corps of Engineers (USACE)	Individual/Nationwide Section 404 Permit (CWA, 33 USC 1341)	Discharge of dredge/fill into Waters of the U.S., including wetlands.
	Section 10, Rivers and Harbors Act Permit	Activities, including the placement of structures, affecting navigable waters.
Advisory Council on Historic Preservation	Section 106 Consultation, National Historic Preservation Act (NHPA)	Opportunity to comment if project may affect cultural resources listed or eligible for listing on National Register of Historic Places (NRHP).
U.S. Department of Transportation (USDOT), Federal Highway Administration (FHA)	Encroachment Permits	Consider issuance of permit for transmission line crossing of federally funded highways.
U.S. Department of the Treasury, Bureau of Alcohol, Tobacco and Firearms	Explosive User's Permit	Consider issuance of permit to purchase, store and use explosives for site preparation.
State Agencies		
State Water Resources Control Board (SWRCB), Regional Water Quality Control Board (RWQCB)	General Construction Activity Stormwater Permit	Stormwater discharges associated with construction activity.
	Waste Discharge Requirements (Water Code 13000 *et seq.*)	Discharge of waste that might affect groundwater or surface water (nonpoint-source) quality.
	401 Certification (CWA, 33 USC 1341. If the project requires USACE 404 Permit)	Discharge into waters and wetlands (see USACE Section 404 Permit).
	Permit to Operate a Public Water System	Any person who plans to operate a public water system must obtain permit.
California State Lands Commission	Right-of-Way Permit (Land Use Lease)	Consider issuance of a grant of right-of-way across state land.
California Department of Fish and Wildlife (CDFW)	California ESA	Activity where a listed candidate, threatened, or endangered species under California ESA may be present in the project area and a state agency is acting as lead agency for CEQA compliance. Consider issuance of a Section 2081 incidental take permit for state-only listed species and a Section 2081.1 consistency determination for effects on species that are both federally and state listed.
	California Native Plant Protection Act	Review of mitigation agreement and mitigation plan for plants listed as rare.
	Lake/Streambed Alteration Agreement (California Fish and Game Code Section 1601)	Change in natural state of river, stream or lake (includes road or land construction across a natural streambed).

Table 3-7 Potential Permits and Approvals

Agency/Department	Permit/Approval	Action Associated With or Required For
California Department of Transportation (Caltrans)	Encroachment Permit	Consider issuance of permits to cross state highways.
California Coastal Commission (CCC)	Coastal Development Permit	Development within the Coastal Zone.
California State Historic Preservation Office (SHPO)	Section 106 Consultation, NHPA	Consult with Bureau of Land Management (BLM), project applicant, appropriate land management agencies, and others regarding activities potentially affecting cultural resources.
Local Agencies		
County of San Diego Department of Environmental Health (DEH)	Hazardous Materials Business Plan	Hazardous material exceeding federal threshold quantities.
	Hazardous Materials Inventory	Hazardous materials exceeding county threshold quantities.
County of San Diego Department of Public Works	Encroachment Permit	Installation of pipelines in, under, or over any portion of county road rights-of-way.
San Diego County, Sheriff's Department	Explosives Permit	Consider issuance of a license to store flammable explosives.
San Diego Air Pollution Control District (SDAPCD)	Authority to Construct	Emissions from a stationary source.
	Permit to Operate	Equipment emitting pollutants from a stationary source.
San Diego County Water Authority (SDCWA)	Joint Use Permit	Installation of pipelines in areas where SDCWA has prior rights.

Chapter 4 ENVIRONMENTAL IMPACT ANALYSIS

Sections 4.1 through 4.12 of Chapter 4 of this PEIR contain a discussion of the potential significant environmental effects resulting from implementation of the OWD WFMP, including information related to existing site conditions, analyses of the type and magnitude of individual and cumulative environmental impacts, and feasible mitigation measures that could reduce or avoid environmental impacts.

Scope of the Environmental Impact Analysis

Implementation of the WFMP could result in potential significant impacts for the following environmental topics:

- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology, Soils, and Paleontological Resources
- Global Climate Change
- Hydrology and Water Quality
- Landform Alteration and Visual Quality
- Land Use and Planning
- Noise
- Public Safety
- Transportation/Traffic

Impacts to Agricultural Resources and Mineral Resources are considered to be "Effects Found Not to be Significant," according to Section 15128 of the CEQA Guidelines. Population and Housing, Public Services, Recreation, and Utilities and Service Systems were not analyzed in Chapter 4 of this PEIR because they are not applicable to the 2015 WFMP Update. The rationale for these conclusions are given in Chapter 6 of this PEIR.

Format of the Environmental Impact Analysis

The following subsections comprise each of the 12 environmental topic sections in Chapter 4 of this PEIR.

Environmental Setting

According to Section 15125 of the CEQA Guidelines, an EIR must include a description of the existing physical environmental conditions in the vicinity of a project to provide the "baseline condition" against which project-related impacts are compared. Normally, the baseline condition is the physical condition that exists when the Notice of Preparation (NOP) is published. The NOP for the OWD WFMP PEIR was published on June 29, 2015. However, the CEQA Guidelines and applicable case law recognize that the date for establishing an environmental baseline cannot be rigid. Physical environmental conditions may vary over a range of time periods; thus, the use of environmental baselines that differ from the date of the NOP is reasonable and appropriate when conducting the environmental analysis. The following subsections rely on a variety of data to establish an applicable baseline.

Regulatory Framework

This subsection provides a summary of regulations, plans, policies, and laws that are relevant to each environmental topic at the federal, state, and local levels.

Impacts and Mitigation

This subsection describes the potential environmental impacts associated with implementation of the OWD WFMP. Based upon the standards of significance given in Appendix G of the CEQA Guidelines or as modified by the OWD, this subsection provides a conclusion regarding the significance of environmental impacts for each issue identified in Appendix G of the CEQA Guidelines that fall under one of the following categories:

- "Potentially Significant Impact"
- "Less Than Significant With Mitigation Incorporated"
- "Less Than Significant Impact"

For example, Appendix G of the CEQA Guidelines identifies five environmental issues for the environmental topic Air Quality. Detailed impact analyses and mitigation measures are discussed in Section 4.1 of this PEIR for the first three issues that are determined to be potentially significant, which address conflicts with the applicable air quality plan and direct and cumulative air quality violations. For the fourth issue (exposure of sensitive receptors to substantial pollutant concentrations), ~~Chapter 5~~ Section 6.1 of the PEIR (Effects Found Not to be Significant) will expand upon the conclusion of less than significant impact. For the fifth issue, Section 4.1 of this PEIR will describe the specific design features to be incorporated as mitigation for the potentially significant impacts associated with the exposure of sensitive receptors to objectionable odors. A Summary Box at the beginning of each issue subsection provides the reader a convenient capsule of the issue statement, the significance of impact conclusion (before and after mitigation), and the proposed mitigation measure(s).

Project Design Features/Standard Construction Practices

This subsection lists the specific features that will be incorporated into the design of CIP projects and/or the standard construction practices adopted by the OWD, both of which are intended to reduce the severity of impacts identified in the Impact Analysis subsection described below. The OWD has fully committed to undertaking these measures and, in fact, the standard construction practices are typically incorporated into their project construction plans and specifications.

Standards of Significance

Standards of significance are criteria used to determine whether potential environmental effects are significant. The standards of significance used in this analysis were primarily based upon Appendix G of the CEQA Guidelines. This subsection defines the type, amount, and/or extent of impact that would be considered a significant adverse change in the environment. The standards of significance for some environmental topics, such as air quality, traffic and noise, are quantitative, while those for other topics, such as landform alteration/visual quality, are qualitative. The standards of significance are intended to assist the reader in understanding how and why an EIR reaches a conclusion that an impact is significant or less than significant.

Impact Analysis

The analysis of environmental impacts considers both the construction and operational aspects of the near-term (year 2017 to year 2022) and long-term (year 2023 to ultimate end) projects associated with implementation of the WFMP. As required by Section 15126.2(a) of the CEQA Guidelines, direct, indirect, short-term, extended-term, on-site, and/or off-site impacts are addressed, as appropriate, for the environmental issue being analyzed.

This PEIR utilizes the following terms to describe the level of significance of impacts identified during the course of the environmental analysis:

- ***Less than Significant***. This term is used to refer to impacts resulting from implementation of the WFMP that are not likely to exceed the defined standards of significance;
- ***Potentially Significant.*** This term is used to refer to impacts resulting from implementation of the WFMP that exceed the defined standards of significance before identification of project design features/standard construction practices and mitigation/performance measures. A "significant effect" is defined by Section 15382 of the CEQA Guidelines as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment [but] may be considered in determining whether the physical change is significant."
- ***Less than Significant with Mitigation Incorporated.*** This term is for impacts that are identified as potentially significant, but where the level of impact is reduced to a level that does not exceed the defined standards of significance after implementation of project design features/standard construction practices and mitigation/performance measures.
- ***Significant and Unavoidable.*** This term is used to refer to potentially significant impacts resulting from implementation of the WFMP that cannot be eliminated or reduced to below standards of significance through implementation of feasible project design features/standard construction practices and mitigation/performance measures.

Mitigation/Performance Measures

Section 15126.4 of the CEQA Guidelines requires an EIR to "describe feasible measures which could minimize significant adverse impacts." The CEQA Guidelines define feasibility as capable of being accomplished in a successful manner within a reasonable period of time taking into account economic, legal, social, technological, or other considerations. This subsection lists the "mitigation measures" and/or "performance measures" that could reduce the severity of impacts identified in the Impact Analysis subsection. Mitigation measures are the specific environmental requirements to allow for construction of the specific projects identified in the mitigation measure, consistent with the Findings of this PEIR. With implementation of these measures, no additional CEQA documentation is required, unless changes occur in the design of these projects that warrant additional environmental review pursuant to Sections 15162 through 15164 of the CEQA Guidelines. Performance measures are the additional environmental studies, surveys and/or CEQA documentation that will be required for the specific projects identified in the performance measure, prior to future approvals and construction of these projects consistent with the Findings of this PEIR.

CEQA Checklist Items Deemed Not Applicable

Certain environmental issues from Appendix G of the CEQA Guidelines were determined to be not applicable to the WFMP or "No Impact." This subsection provides a brief explanation of why the issue was deemed not applicable and therefore not analyzed in this PEIR.

References

This subsection identifies sources relied upon for each environmental topic analyzed in Chapter 4 of this PEIR.

4.1 Air Quality

This section of the PEIR for the 2015 WFMP Update describes existing conditions within the planning area with respect to air quality; the potential physical environmental effects (direct, indirect, and/or cumulative) related to these issues resulting from development of CIP projects under the 2015 WFMP Update; and the project design features (PDF), standard construction practices (SCP), and mitigation/ performance measures to reduce or avoid the identified impacts.

4.1.1 Environmental Setting

4.1.1.1 Climatology

The climatic and meteorological conditions within a region influence the ambient air quality, and this influence can vary throughout the year as conditions fluctuate. The OWD planning area is located within the San Diego Air Basin (SDAB). The general climatic conditions of the OWD planning area vary greatly due to its size and geographic range throughout San Diego County. Generally speaking, climatic trends within the San Diego region correspond to proximity to the Pacific Ocean, and the San Diego Air Pollution Control District (SDAPCD) defines climatic zones based on this premise. The OWD planning area falls within three of the five climate zones defined by the SDAPCD, the Coastal Zone (5-15), the Transitional Zone (20-25), and the Interior Zone (25-60) (SDAPCD 2008). The numbers associated with each of the climatic zones denote approximate distances from the Pacific Ocean in units of miles.

The climate of the SDAB is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. The combination of topography and climate influence air quality in the SDAB and are constraints to efforts to reduce air pollution in the region. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. This warm upper layer forms a cap over the cool marine layer and inhibits pollutants in the marine layer from dispersing away from the surface. In addition, light winds during the summer further limit ventilation. The SDAB experiences more days of sunlight than many other urban areas in the nation, and sunlight triggers the photochemical reactions that produce ozone, a criteria pollutant as described in Section 4.1.1.2 (Existing Air Quality).

Climatic conditions within the San Diego region are characteristically Mediterranean along the coast, with mild temperatures year round. Inland areas are both hotter in summer and colder in winter, with summer temperatures often exceeding 90 degrees Fahrenheit (°F), and winter temperatures occasionally dipping to below freezing. Information from NOAA taken from Lindbergh Field (near the San Diego International Airport) in the Coastal Zone demonstrates that between the years 1850 to 2008 the temperature within San Diego remained fairly temperate at an overall average of 63°F (NOAA 2015). The normal precipitation in San Diego is 10.13 inches annually, occurring primarily from November through March.

4.1.1.2 Existing Air Quality

Existing, air quality laws and regulations divide air pollutants into two general categories: criteria air pollutants and toxic air pollutants. The Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards for six common air pollutants. These

commonly found air pollutants (also known as "criteria pollutants") include particle pollution (often referred to as particulate matter), ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead (EPA 2014).

Toxic air contaminants (TACs), also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. The EPA is working with state, local, and tribal governments to reduce air toxics releases of 188 pollutants to the environment. Examples of TACs include benzene, which is found in gasoline; perchlorethlyene, which is emitted from some dry cleaning facilities; and methylene chloride, which is used as a solvent and paint stripper by a number of industries. Examples of other listed air toxics include dioxin, asbestos, toluene, and metals such as cadmium, mercury, chromium, and lead compounds.

Criteria Air Pollutants

There are currently six criteria air pollutants for which the EPA has set ambient air quality standards. These pollutants are described below.

Ozone

Ozone (O_3) is a gas composed of three oxygen atoms. It is not usually emitted directly into the air but at ground-level, and is created by a chemical reaction between oxides of nitrogen (NO_X) and volatile organic compounds (VOC) in the presence of sunlight. Motor vehicle exhaust and industrial emissions, gasoline vapors, and chemical solvents as well as natural sources emit NO_X and VOC that help form ozone. Ground-level ozone is the primary constituent of smog. Sunlight and hot weather cause ground-level ozone to form in harmful concentrations in the air. As a result, it is known as a summertime air pollutant. Many urban areas tend to have high levels of ground level ozone but even rural areas are also subject to increased ozone levels because wind carries ozone and pollutants that form hundreds of miles away from their original sources. Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level ozone also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue (EPA 2014).

Carbon monoxide

Carbon monoxide (CO) is a colorless, odorless, poisonous gas, produced by incomplete burning of carbon-based fuels, including gasoline, oil, and wood. Carbon monoxide is also produced from incomplete combustion of many natural and synthetic products. For example, cigarette smoke may contain carbon monoxide. When carbon monoxide enters the body, it combines with chemicals in the blood and prevents the blood from providing oxygen to cells, tissues, and organs. Because the body requires oxygen for energy, high-level exposures to carbon monoxide can cause serious health effects.

Nitrogen dioxide

Nitrogen dioxide (NO_2) is produced from burning fuels, including gasoline, diesel, and coal. It is formed directly as a product of combustion and in the atmosphere through the reaction of nitrogen oxide (NO) with oxygen. As mentioned previously, nitrogen oxides may react with VOC to form ozone, which is a major component of smog. Nitrogen oxides are also major components of acid rain. Nitrogen dioxide is a respiratory irritant and may affect those with existing respiratory illness, including asthma.

Particulate matter

Particulate matter (PM_{10} and $PM_{2.5}$) includes dust, soot, and other tiny bits of solid materials that are released into and move around in the air. Particulates are produced by many sources, including burning of diesel fuels by trucks and buses, incineration of garbage, mixing and application of fertilizers and pesticides, road construction, industrial processes such as steel making, mining operations, agricultural burning, and operation of fireplaces and woodstoves. Particulate pollution can cause eye, nose, and throat irritation and other health problems. Particulate matter is measured in microns, which are one millionth of a meter in length (or one-thousandth of a millimeter). PM_{10} is small (respirable) particulate matter measuring 10 microns in diameter; while $PM_{2.5}$ is fine particulate matter no more than 2.5 microns in diameter.

Sulfur dioxide

Sulfur dioxide (SO_2) is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes, such as production of paper and smelting of metals. Sulfur dioxide is closely related to sulfuric acid and plays an important role in the production of acid rain. Sulfur dioxide is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to sulfur dioxide can cause respiratory illness and aggravate existing cardiovascular disease.

Other Regulated Air Pollutants

Volatile organic compounds are defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. The major sources of VOCs in the SDAB are on-road motor vehicles and solvent evaporation. Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, higher concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, kidneys, and central nervous system (EPA 1999). It should be noted that there are no California Ambient Air Quality Standards (CAAQS) for VOCs because they are not classified as criteria pollutants. They are regulated, however, because a reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone.

Toxic Air Contaminants

TACs are a category of air pollutants that have been shown to have an impact on human health but are not classified as criteria pollutants. Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including construction activities; area sources, such as architectural coatings for maintenance purposes, fuel combustion emissions from landscape maintenance equipment, and energy use from space and water heating; stationary sources such as diesel emergency generators and laboratories; and mobile sources. Adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) non-carcinogenic, and long-term (chronic) non-carcinogenic.

Diesel particulate matter (DPM) can be a TAC of concern during construction of a project due to use of heavy trucks. DPM is a mixture of many exhaust particles and gases that is produced when an engine burns diesel fuel and many compounds found in diesel exhaust are carcinogenic. Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation and exposure can cause coughs, headaches, light-headedness, and nausea. Diesel exhaust is a major source of ambient fugitive dust

pollution as well, and numerous studies have linked elevated fugitive dust levels in the air to increased hospital admission, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems (OEHHA 2001).

Lead

Air-borne sources of lead (Pb) include industrial sources and soil weathering of crustal soils that contain lead. Lead can cause severe health effects including brain and kidney damage and learning disabilities. For this reason, lead is listed as both a criteria air pollutant and as a toxic air contaminant.

Cancer Risk

Cancer risk is defined as the lifetime probability (chance) of developing cancer from exposure to a carcinogen, typically expressed as the increased chances in one million. The significance of exposure to a carcinogen is evaluated based on the increase in risk. The increased risk is determined by multiplying a calculated dose with the cancer potency factor and then by one million to express risk in the common term of the risk per million people.

Non-Cancer Risk

Non-cancer health risk of an inhaled TAC is measured by the hazard index, the ratio of the reported concentration of an air toxic compound to an acceptable or "reference" exposure level (REL). For non-inhalation pathways, hazard indices are calculated as the ratio of calculated doses to acceptable or "reference" doses (RfDs). If the reported concentration or dose of a given chemical is less than its REL or RfD, then the hazard index will be less than 1.0. If more than one chemical is considered, it is assumed that multiple sub-threshold exposures could result in an adverse health effect. Thus, chemical-specific hazard indices are summed. Typically, for a given set of chemicals, hazard indices are summed for each organ system that each chemical can affect. For any organ system, a total hazard index exceeding 1.0 indicates a potential adverse health effect.

Existing OWD Planning Area

The entirety of the OWD planning area exists within the SDAB, which lies within primary jurisdiction of the SDAPCD. The SDAPCD maintains and operates 10 ambient air monitoring stations throughout the SDAB in order to measure ambient concentrations of relevant pollutants. The results are used to determine if the ambient air quality meets the National Ambient Air Quality Standards (NAAQS) and the CAAQS, which are listed below in Table 4.1-1. Three of the ten monitoring stations are within proximity to the OWD planning area, including the El Cajon, Chula Vista, and Otay Mesa stations.

Criteria Air Pollutants

The SDAPCD operates a network of 10 ambient air monitoring stations throughout San Diego County that measure ambient concentrations of air pollutants and determine whether the ambient air quality meets the NAAQS and the CAAQS. The nearest ambient monitoring station to the project area is the Otay Mesa-Paseo International station, located to the west of the project area. The nearest station that measures carbon monoxide is the El Cajon-Redwood Avenue station, located north of the project area. Table 4.1-1 presents a summary of the ambient pollutant concentrations monitored at the nearest monitoring stations during the last three years available (2012-2014).

Table 4.1-1 Air Quality Monitoring Data

Pollutant	Monitoring Station	2013	2014	2015
Carbon Monoxide (CO) [1]				
Maximum 8-hour concentration (ppm)	El Cajon-Redwood Avenue	1.86	--	--
Days above state or federal standard (>9.0 ppm)		0	--	--
Nitrogen Dioxide (NO_2)				
Peak 1-hour concentration (ppm)	Otay Mesa-Paseo International	0.091	0.087	--
Days above state 1-hour standard (0.18 ppm)		0	0	--
Ozone (O_3)				
Maximum 1-hour concentration (ppm)	Otay Mesa-Paseo International	0.073	0.061	--
Days above 1-hour state standard (>0.09 ppm)		0	0	--
Maximum 8-hour concentration (ppm)		0.063	0.054	--
Days above 8-hour state standard (>0.07 ppm)		0	0	--
Days above 8-hour federal standard (>0.075 ppm)		0	0	--
Sulfur Dioxide (SO_2)				
Maximum 24-hour concentration (ppm)	El Cajon-Redwood Avenue	0.001	--	--
Days above 24-hour state standard (>0.04 ppm)		0	--	--
Days above 24-hour federal standard (>0.14 ppm)		0	--	--
Respirable Particulate Matter (PM_{10}) [1]				
Peak 24-hour concentration ($\mu g/m^3$)	Otay Mesa-Paseo International	126	--	--
Days above state standard (>50 $\mu g/m^3$)		6	--	--
Days above federal standard (>150 $\mu g/m^3$)		0	--	--
Fine Particulate Matter ($PM_{2.5}$)				
Peak 24-hour concentration ($\mu g/m^3$)	Chula Vista	21.9	26.5	33.5
Days above federal standard (>35 $\mu g/m^3$)		0	0	0

ppm = parts per million, $\mu g/m^3$ = micrograms per cubic meter
[1] The most recent year the pollutant was monitored was 2012, which is shown under 2013 in this table.
Source: ARB 2016

As shown in Table 4.1-1, the 1-hour and 8-hour ozone concentrations did not exceed the state or federal standards in 2012 through 2014. The federal 24-hour PM_{10} concentration did not exceed the federal standard in the past three years; however, the state PM_{10} standard was violated six times in 2012.

Neither the state nor federal standards for carbon monoxide, NO_2, SO_2, or $PM_{2.5}$ were exceeded at any time during the years 2013 through 2015. The federal annual average NO_2 standard has not been exceeded since 1978 and the California 1-hour standard has not been exceeded since 1988 (SDAPCD 2007a). With one exception during October 2003, the SDAB has not violated the state or federal standards for carbon monoxide since 1990 (SDAPCD 2007a).

4.1.2 Regulatory Framework

4.1.2.1 Federal

Clean Air Act

The CAA of 1970 and the Amendments of 1971 required the EPA to establish NAAQS with states retaining the option to adopt more stringent standards or to include other specific pollutants. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise.

The EPA has classified air basins (or portions thereof) as being in "attainment," "non-attainment," or "unclassified" for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because there is insufficient data to designate an area, or designations have yet to be made. Table 4.1-2 lists the federal attainment status of the SDAB for the criteria pollutants.

Table 4.1-2 San Diego Air Basin Attainment Status

Pollutant	State Status	Federal Status
Carbon Monoxide (CO)	Attainment	Maintenance (Moderate)
Nitrogen Dioxide (NO_2)	Attainment	Attainment/Unclassified
Ozone (O_3) (1-hour)	Non-attainment	No Federal standard
Ozone (O_3) (8-hour)	Non-attainment	Non-attainment (Marginal)
Lead (Pb)	Attainment	Attainment/Unclassified
Sulfur Dioxide (SO_2)	Attainment	Attainment/Unclassified
Respirable Particulate Matter (PM_{10})	Non-attainment	Attainment/Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Non-attainment	Attainment/Unclassified
Source: EPA 2016, ARB 2013		

4.1.2.2 State

California Clean Air Act

The CAA allows states to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. The California Air Resources Board (ARB), a part of the California EPA is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. The NAAQS and CAAQS are listed below in Table 4.1-3.

Table 4.1-3 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]	Federal Standards[2]	
		Concentration[3]	Primary[3,4]	Secondary[3,5]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	--	Same as Primary Standard
	8 Hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m	--	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	--	35 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	15 µg/m^3
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	53 ppm (100 µg/m^3)[6]	Same as Primary Standard
	1 Hour	0.18 ppm (470 mg/m^3)	100 ppb (188 µg/m^3)[6]	None
Sulfur Dioxide (SO_2)	24 Hour	0.04 ppm (105 µg/m^3)	--	--
	3 Hour	--	--	0.5 ppm (1300 µg/m^3)[7]
	1 Hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)[7]	--
Lead[8]	30 Day Average	1.5 µg/m^3	--	--
	Calendar Quarter	--	1.5 µg/m^3	Same as Primary Standard
	Rolling 3-month Average[9]	--	0.15 µg/m^3	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more due to particles.	No Federal Standards	
Sulfates	24 Hour	25 µg/m^3	No Federal Standards	
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	No Federal Standards	
Vinyl Chloride[8]	24 Hour	0.01 ppm (26 µg/m^3)	No Federal Standards	

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and 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. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the CCR.
[2] National standards (other than hour ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when fourth highest 8-hour concentration measured at each site in a year, averaged over three 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 one. For $PM_{2.5}$, the 24 hour standard is attained when 98% of the daily concentrations, averaged over three years, are equal to or less than the standard.
[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parenthesis 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.
[4] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
[5] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
[6] To attain the 1-hour national 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.
[7] 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 1-hour national 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 one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
[8] The ARB has identified lead and vinyl chloride as 'toxic air contaminants' 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.
[9] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one 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.
Source: ARB 2015.

California State Implementation Plan

The CAA (and its subsequent amendments) required each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The California EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA, and achieve air quality goals when implemented. The ARB adopts the California SIP. The SDAPCD has developed the SDAB input to the SIP, which is required under the federal CAA for areas that are out of attainment of air quality standards. The SIP includes the APCD plans and control measures for attaining the NAAQS for ozone. The SIP is updated on a triennial basis. The ARB adopted its 2007 State Strategy for the California 2007 SIP on September 27, 2007. As part of the State Strategy, the SDAPCD developed its "Eight-Hour Ozone Attainment Plan for San Diego County" Plan (SDAPCD 2007b), which provides plans for attaining and maintaining the 8-hour NAAQS for ozone. This plan accommodates emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the California EPA and the ARB, and the emissions and reduction strategies related to mobile sources are considered in the SIP. The SIP does not address impacts from sources of PM_{10} or $PM_{2.5}$. A Redesignation Request and Maintenance Plan for 1997 Ozone Standard in San Diego County was approved by the California EPA in 2013.

Toxic Air Contaminant Regulations

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807 Tanner Act) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588 Hot Spots Act). The Tanner Act sets forth a formal procedure for ARB to designate substances as TACs. The Hot Spots Act requires that existing facilities that emit toxic substances above specified levels: (1) prepare a toxic emission inventory, (2) prepare a risk assessment if emissions are significant (i.e., 10 tons per year or on the applicable air district's Hot Spots Risk Assessment list), (3) notify the public of significant risk levels, and (4) prepare and implement risk reduction measures.

In September 2000, ARB approved the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (ARB 2000). The plan outlines a comprehensive and ambitious program that includes the development of numerous control measures aimed at substantially reducing emissions from new and existing on-road vehicles (e.g., heavy-duty trucks and buses), off-road equipment (e.g., graders, tractors, forklifts, sweepers, and boats), portable equipment (e.g., pumps), and stationary engines (e.g., stand-by power generators).

4.1.2.3 Local

San Diego County Regional Air Quality Strategy

The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for San Diego County, including the OWD planning area. The SDAPCD regulates most air pollutant sources, except for motor vehicles, marine vessels, aircrafts, and agricultural equipment, which are regulated by the ARB or the EPA. State and local government projects, as well as projects proposed by the private sector, are subject to SDAPCD requirements if the sources are regulated by the SDAPCD. Additionally, the SDAPCD, along with the ARB, maintains and operates ambient air quality monitoring

stations at numerous locations throughout San Diego County. These stations are used to measure and monitor criteria and toxic air pollutant levels in the ambient air.

The SDAPCD and the 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 San Diego County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004, and most recently in April 2009. The RAQS outlines the SDAPCD's plans and control measures designed to attain the state air quality standards for ozone. The SDAPCD has also developed the air basin's input to the SIP, which is required under the Federal Clean Air Act for areas that are out of attainment of air quality standards.

The RAQS relies on information from ARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the county, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The ARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the county as part of the development of the county's General Plan. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS. In the event that a project would propose development which is less dense than anticipated within the general plan, the project would likewise be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the general plan and SANDAG's growth projections, the project might be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality.

The SIP relies on the same information from SANDAG to develop emission inventories and reduction strategies that are included in the attainment demonstration for the air basin. The SIP also includes rules and regulations that have been adopted by the SDAPCD to control emissions from stationary sources. These SIP-approved rules may be used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for ozone.

San Diego Air Pollution Control District Rule 50 and 55, Fugitive Dust Control

In addition to the RAQS and SIP, the SDAPCD adopted the "Measures to Reduce Particulate Matter in San Diego County" report in December 2005 (SDAPCD 2005). As a result of the evaluation, SDAPCD proposed measures for further evaluation to reduce particulate emissions from residential wood combustion and from fugitive dust from construction sites and unpaved roads. The SDAPCD requires that construction activities implement the measures listed in Rule 50 and Rule 55 to minimize visible and fugitive dust emissions (SDAPCD 2009).

Other San Diego Air Pollution Control District Rules and Regulations

Rule 51 prohibits nuisances, including objectionable odors (SDAPCD 1969). Rule 67 establishes volatile organic compounds content limits for architectural coatings (SDAPCD 2001). Rule 1200 applies to any new, relocated, or modified emission unit which may increase emissions of one or more toxic air contaminant. Additionally, APCD Rule 1210 implements the public notification and risk reduction requirements of the State Air Toxics "Hot Spots" Act, and requires facilities to reduce risks to acceptable levels within five years.

4.1.3 Project Impacts and Mitigation

4.1.3.1 Issue 1 – Consistency with Applicable Air Quality Plan

Project Design Features/Standard Construction Practices

There are no PDFs or SCPs identified to reduce potential impacts associated with consistency with applicable air quality plans.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, an impact is considered significant if implementation of the 2015 WFMP Update would result in a conflict with or obstruct implementation of the San Diego County RAQS, applicable portions of the SIP, and/or any local air quality plans.

Impact Analysis

The most current air quality planning document for the SDAPCD and thus the applicable air quality plan to the 2015 WFMP Update is the 2009 RAQS (SDAPCD 2009). As discussed in Section 4.1.2.3 (Local Regulatory Framework), this plan was prepared by the SDAPCD for ARB as part of the SIP, to demonstrate how the SDAB would either maintain or strive to attain the NAAQS. Being that the SDAB is classified as a nonattainment area for state and federal ozone, $PM_{2.5}$, and PM_{10} standards, the aforementioned plan outlines specific actions (emission control measures) that the SDAPCD will take towards achieving attainment of these pollutants. The California SIP would also be applicable to the OWD planning area. California SIP documents are prepared by ARB to demonstrate how the entire state of California will maintain or attain the NAAQS. These documents are based on a collection of information from each of the local APCDs.

The 2009 RAQS was developed based on growth assumptions, land use, and other information from SANDAG. Growth assumptions made within the 2015 WFMP Update to determine appropriate future service requirements were also derived from SANDAG growth assumptions and land use information. As such, the 2015 WFMP Update would be consistent with the applicable SDAPCD air quality management plan and the California SIP, as these documents utilized the same growth assumptions. Implementation of the 2015 WFMP Update would not conflict with or obstruct implementation of an applicable air quality plan.

Mitigation/Performance Measures

Implementation of the 2015 WFMP Update would not conflict with or obstruct implementation of an applicable air quality plan; therefore, no mitigation is required.

4.1.3.2 Issue 2 – Consistency with Air Quality Standards

Project Design Features/Standard Construction Practices

In 2002, OWD developed a comprehensive WRMP that combined all previously existing master plans and facility plans into one system wide plan outlining the CIP projects required to serve their customers. In 2009, OWD updated the WRMP. A PEIR (SCH #2008101127) was prepared for the 2009 WRMP project in accordance with CEQA that addressed the potential effects of the environment from construction and operation of the identified CIPs (OWD 2010b). As identified in the 2009 WRMP PEIR, implementation of the WRMP includes PDFs and SCPs to reduce potential environmental effects on air quality and energy usage from OWD projects. These PDFs and SCPs are identified by environmental topic in the PEIR prepared for the WRMP. The following SCP is applicable to the proposed project:

Air-SCP-1 Prior to construction of CIP projects, the following measures shall be taken to reduce fugitive dust emissions ($PM_{2.5}$, and PM_{10}). Measures shall be implemented during construction, including but not limited to, the following actions:

i. During grading and site preparation activities, exposed soil areas shall be watered as necessary (at least twice per day) to prevent dust emissions. During windy days or when fugitive dust can be observed leaving construction sites, additional applications of water shall be required. Under windy conditions where wind velocities are forecast to exceed 25 miles per hour, all ground disturbing activities shall be halted until the winds are forecast to be less than 25 miles per hour.

ii. Where visible soil material is carried onto adjacent public paved roads, the paved roads shall be swept or washed down at the end of the day to avoid vehicles from pulverizing the dirt into fine particles.

iii. Trucks transporting materials to and from the site shall allow for at least two feet of freeboard (i.e., minimum vertical distance between the top of the load and the top of the trailer). Alternatively, trucks transporting materials shall be covered.

Air-SCP-2 Prior to construction of CIP projects, the following measures shall be taken to reduce potential emissions of ozone precursors (NO_X and VOCs) associated with construction equipment. Measures shall be implemented during construction, including but not limited to the following action:

i. All construction equipment utilized for the construction of proposed CIP projects shall be maintained, tuned, and operated in accordance with all relevant SDAPCD, ARB, and EPA standards.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, an impact is considered significant if implementation of the 2015 WFMP Update would violate any air quality standard or contribute substantially to an existing or projected air quality violation including pollutant emissions for which the region is in federal or state nonattainment.

The SDAPCD does not provide quantitative thresholds for determining the significance of construction or mobile source-related projects. However, the SDAPCD does specify Air Quality Impact Analysis (AQIA)

screening levels for new or modified stationary sources (APCD Rules 20.2 and 20.3). If these screening levels are exceeded, an AQIA must be performed. Although these screening levels do not generally apply to mobile sources or general land development projects, for comparative purposes these levels may be used to evaluate the increased emissions from these projects. For CEQA purposes, the screening level thresholds can be used to demonstrate that a project's total emissions would not result in a significant impact to air quality. Because the AQIA screening thresholds do not include VOCs and $PM_{2.5}$, the screening level for these pollutants used in this analysis are from the South Coast Air Quality Management District (SCAQMD), which generally has stricter emissions thresholds than SDAPCD. The screening thresholds listed in Table 4.1-4 below are used in this analysis to determine whether the Project has the potential to violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Table 4.1-4 San Diego Air Pollution Control District Pollutant Thresholds

Pollutant	Pounds Per Hour	Pounds Per Day	Tons Per Year
Carbon monoxide (CO)	100	550	100
Nitrogen Oxides (NO_X)	25	250	40
Respirable Particulate Matter (PM_{10})	--	100	15
Fine Particulate Matter ($PM_{2.5}$)	--	55[1]	10.0[2]
Oxides of Sulfur (SO_X)	25	250	40
Lead (Pb)	--	3.2	0.6
Volatile Organic Compounds (VOC)	--	55[1,3]	13.7[4]

(1) Based on threshold from SCAQMD
(2) Converted from PM2.5 Pounds per Day threshold
(3) There are separate thresholds for construction and operation: 75 lb/day for construction and 55 lb/day for operation
(4) Converted from VOC Pounds per Day threshold: 13.7 lbs/day for construction and 10.0 lbs/day for operation
Source: SDAPCD 1998, SCAQMD 2015.

Impact Analysis

Implementation of the 2015 WFMP Update would have the potential to violate air quality standards through construction activities or during operation of the proposed CIP projects, as discussed below.

Construction Emissions

Construction of CIP projects proposed under the 2015 WFMP Update would result in temporary increases in air pollutant emissions. These emissions would be generated in the form of fugitive dust emissions (PM_{10} and $PM_{2.5}$) and ozone precursor emissions (NO_X, VOC). Operation of heavy equipment and vehicles during the construction phases would generate exhaust emissions from fuel combustion. Fugitive dust emissions would be generated from earth disturbance during site grading and building demolition, as well as from construction vehicles operating on open fields or dirt roadways within or adjacent to CIP project construction sites.

Equipment that would be associated with construction of the proposed CIP projects includes dozers, rollers, dewatering pumps, backhoes, loaders, delivery and haul trucks. At this time, many of the CIP projects under the 2015 WFMP Update are still in the design phase and, as such, information regarding the number and type of construction equipment required and the duration of construction activities is

still unknown. Therefore, it is unknown whether or not construction emissions for the CIP projects (either individually or collectively) would exceed the screening thresholds established by the SDAPCD.

As discussed above in Section 4.1.2.1 (Federal Regulatory Framework), the SDAB is currently designated as a nonattainment area for the state standard for PM_{10}, $PM_{2.5}$, 1-hour and 8-hour ozone, and the federal 8-hour standard for ozone. Implementation of Air-SCP-1 would require that construction of all proposed CIP projects adhere to standard construction practices for controlling fugitive dust emissions. In addition, all equipment utilized for construction of the proposed CIP projects would be required to implement Air-SCP-2. This standard construction practice requires that all construction vehicles meet the requirements of the relevant air quality agencies, the SDAPCD, ARB, and the EPA with regards to tuning, maintenance, and operation of the vehicles. Although incorporation of these standard construction practices would reduce potential pollutant emissions, compliance with the standard construction practices does not ensure that emissions from combined construction activity would be less than the applicable SDAPCD screening levels.

Implementation of the 2015 WFMP Update could potentially contribute to the existing regional violation of state and federal air pollutant standards, resulting in a significant impact.

Operational Emissions

Operational impacts associated with the 2015 WFMP Update would be incremental emissions of air pollutants resulting from two emission source categories: stationary and mobile sources. The following describes these emissions associated with the 2015 WFMP Update.

Stationary Sources. Stationary sources of air pollutant emissions associated with the CIP projects include fuel combustion emissions from diesel-powered emergency generators. Criteria air pollutants from these sources include carbon monoxide, NO_X, SO_X, VOC, PM_{10}, and $PM_{2.5}$. Of the proposed CIP projects, the only projects that may require such equipment would be pump stations. Pipeline projects, storage projects, and groundwater wells, once constructed, would not require the use of emergency generators or any other type of fuel-consuming operating equipment. None of the CIP projects would require space heating or landscape equipment. The 2015 WRMP Update proposes construction of twelve new pump stations: two within Phase II, six within Phase IIIA, and four within Phase IIIB. Diesel fuel for the generators would only be consumed when the equipment is tested, approximately once per month, or in the event of an emergency. Due to the minimal use of diesel fuel required for operation of the pump stations, stationary sources of air pollutant emissions would be negligible.

Mobile Sources. Mobile sources of air pollutant emissions for the CIP projects would be primarily associated with vehicular trips by employees. However, operation of CIP projects proposed under the 2015 WFMP Update would not generate a significant volume of new vehicle trips. The maintenance for most of the CIP projects would require approximately one visit per day. Due to the minimal number of vehicular trips associated with maintenance of the CIP projects, mobile sources of air pollutant emissions would be negligible. Therefore, implementation of the 2015 WFMP Update would not violate any air quality standard or contribute substantially to an existing or projected air quality violation with regards to mobile sources.

Mitigation/Performance Measures

Implementation of mitigation measure Air-1 would reduce potential impacts associated with violations of air quality standards with regards to construction emissions to a less than significant level.

Air-1 An air quality technical study shall be prepared for each CIP once the project reaches the design stage to determine whether potential air pollutant emissions associated with construction activities are less than the screening thresholds established by the SDAPCD. The air quality technical study shall include an air pollutant emissions inventory for the CIP under design, as well as emissions for all other designed CIPs that would undertake construction within the same timeframe. All recommendations and measures identified in the air quality technical study to ensure that air pollutant emissions remain within established thresholds shall be incorporated by the Otay Water District prior to any groundbreaking activities associated with the project.

4.1.4 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2015 WFMP Update

Would implementation of the 2015 WFMP Update expose sensitive receptors to substantial pollutant concentrations?

OWD is not listed within the *2007 Air Toxics "Hot Spots" Program Report for San Diego County* as a company or organization considered capable of posing possible health risks to the community of San Diego with regards to TACs. Therefore, the only potential air emissions that could pose a threat to sensitive receptors as a result of implementation of the 2015 WFMP Update would be carbon monoxide. Intersections for which there are severe traffic congestion issues can have potential risks associated with carbon monoxide "hotspots," defined as areas where high concentrations of carbon monoxide result from idling vehicles. Traffic and the resulting issue of traffic congestion were found to have no significant impacts with regards to implementation of the 2015 WFMP Update (refer to Chapter 4.12, Traffic). The 2015 WFMP Update would not have a potential to form carbon monoxide "hotspots" and would not expose sensitive receptors to substantial pollutant concentrations. Therefore, no impact would occur and no further evaluation is necessary.

Would implementation of the 2015 WFMP Update create objectionable odors affecting a substantial number of people?

The 2015 WFMP Update would potentially generate chemicals such as diesel exhaust, which have the potential to generate objectionable odors. However, due to the dispersed nature of the proposed CIP projects, such odors would not be expected to affect a substantial number of people. Therefore, no impact would occur and no further evaluation is necessary.

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4.2 Biological Resources

This section of the PEIR for the 2015 WFMP Update describes existing conditions within the planning area with respect to biological resources, wildlife movement corridors, and local policies protecting biological resources; the potential physical environmental effects (direct, indirect, and/or cumulative) related to these issues resulting from development of CIPs under the 2015 WFMP Update; and the project design features, standard construction practices, and mitigation/performance measures to reduce or avoid the identified impacts. Refer to Section 4.9.3.1 (Land Use and Planning, Issue 1) of this PEIR for the evaluation of potential conflicts with habitat conservation plans (HCPs) and natural communities' conservation plans, such as the Multiple Species Conservation Programs (MSCPs).

4.2.1 Environmental Setting

4.2.1.1 Research Methods

As listed below, information about biological resources within the planning area was obtained from a search of sensitive species databases; a review of pertinent literature, prior environmental documents, and aerial photographs; and site visits. No site-specific or focused plant or animal surveys were conducted.

Databases

- Calflora (2016)
- California Department of Fish and Wildlife (CDFW 2016a)
- CaliforniaHerps.com (2016)
- California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants* (CNPS 2016)
- CDFW California Natural Diversity Database (CNDDB) (CDFW 2016b)
- San Diego Association of Governments (SANDAG) Regional Species (SANDAG 2016)
- San GIS Vegetation (SANGIS 2016)
- San Diego Management and Monitoring Program (2016)
- U.S. Fish and Wildlife Service (USFWS 2016)

Literature Review

- County of San Diego MSCP (County 1997)
- City of San Diego MSCP (City of San Diego 1997)
- City of Chula Vista MSCP (Chula Vista 2003)
- City of Chula Vista MSCP 2014 Annual Report (Chula Vista 2014)
- Otay Water District Otay Mesa Conveyance and Disinfection System Draft EIR/EIS (2015)
- San Diego Municipal Code. Land Development Code. Biology Guidelines. (Amended) August 2009 (City of San Diego 2009)

Biological information obtained from these sources applies to the entire planning area, as opposed to individual CIP sites. As such, the biological resources listed in the following sections have the potential to occur within the planning area based on species siting or habitat type, but may not occur within individual CIP sites.

4.2.1.2 Biological Resources

Vegetation Communities

The following vegetation communities occur within the planning area, as described below (Figure 4.2-1a through 4.2-1e). Descriptions of each vegetation community were derived from the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), *Terrestrial Vegetation Communities in San Diego County Based on Holland's descriptions* (Oberbauer 1996), and *Draft Vegetation Communities of San Diego County Based on Holland's descriptions* (Oberbauer and Buegge 2008).

Foothill Woodlands

Coast live oak woodland is dominated by California live oak (*Quercus agrifolia)* with an open understory of perennial grasslands, annuals, and herbaceous species. Species associated with this woodland include poison oak (*Toxicodendron diversilobum),* creeping snowberry (*Symphoricarpos mollis)*, San Diego sedge (*Carex spissa*), California buckthorn (*Rhamnus californica*), California wild rose (*Rosa californica*), nodding needlegrass (*Stipa cernua)*, and common chickweed (*Stellaria media)*.

Southern sycamore-alder riparian forest is a deciduous woodland that occurs in broad alluvial or rocky drainages and floodplains and is dominated by western sycamore (*Platanus racemosa*) and alders (*Alnus rhombifolia*). This community also features scattered groves of willows and riparian understory. Other characteristic species of this habitat include blue elderberry (*Sambucus nigra* ssp. *caerulea*), poison oak (*Toxicodendron diversilobum*), mistletoe (*Phoradendron leucarpum*), and desert wild grape (*Vitis girdiana*).

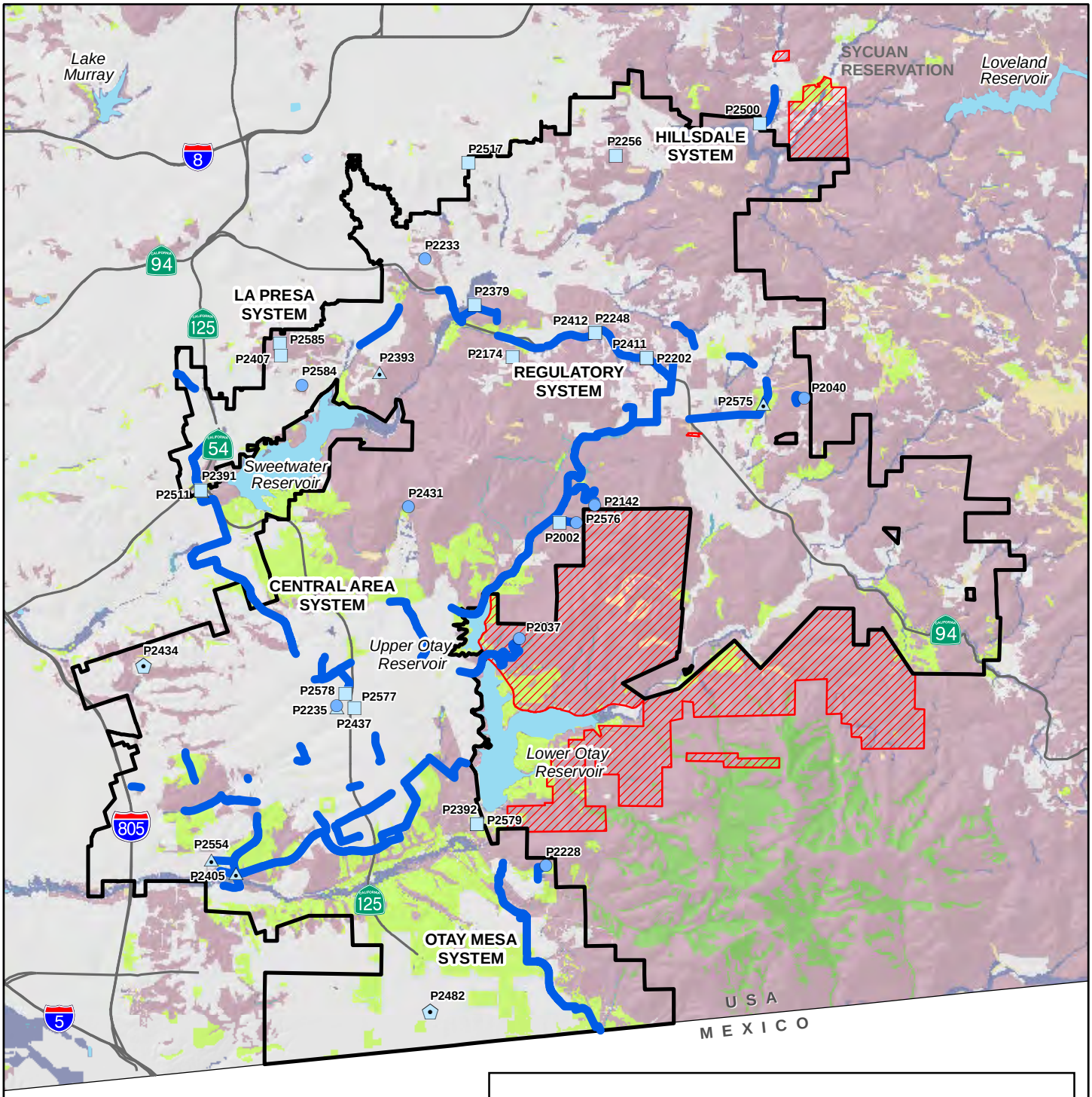
Sycamore alluvial woodland is an open to moderately closed, winter-deciduous, broad-leafed riparian woodland dominated by western sycamore. Understories are usually introduced grasses. Plant species associated with this community include toyon (*Heteromeles arbutifolia*), blue elderberry, annual bluegrass (*Poa annua*), scrub oak (*Quercus berberidifolia*) and coast live oak.

Coastal Scrub and Chaparral

Chamise chaparral is a low-growing community dominated by chamise (*Adenostoma fasciculatum*) with limited shrub diversity and arid understory conditions. This community occurs around Mount San Miguel. Species associated with this community include hairy yerba santa (*Eriodictyon trichocalyx*), broom snakeweed (*Gutierrezia sarothrae*), hairyleaf redberry (*Rhamnus pilosa*), Mojave yucca (*Yucca schidigera*), and mission manzanita (*Xylococcus bicolor*).

Coastal sage chaparral scrub contains species representative of both sage scrub and chaparral, dominated by California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), chamise, and mission manzanita. Canopy height tends to be low to moderate (3-5 feet tall), and relatively open, resembling sage scrub.

Diegan coastal sage scrub is commonly characterized by drought-adapted subshrubs, dominated by California sagebrush, California buckwheat, black sage, and coyote brush (*Baccharis pilularis*). This community provides habitat for several sensitive species, including the coastal California gnatcatcher (*Polioptila californica californica*).



TYPE

- Reservoir
- Pump Station
- Water Supply Project
- Miscellaneous
- Pipeline
- OWD Jurisdiction
- Area of Influence

Category

- Marsh and Wetland Communities
- Disturbed or Developed Areas
- Forest
- Grasslands and Other Herb Communities
- Riparian Communities
- Coastal Scrub and Chaparral Communities
- Woodland

1 in = 2.5 miles
0 0.625 1.25 2.5
Miles

Source: SanGIS 2016, ESRI 2016

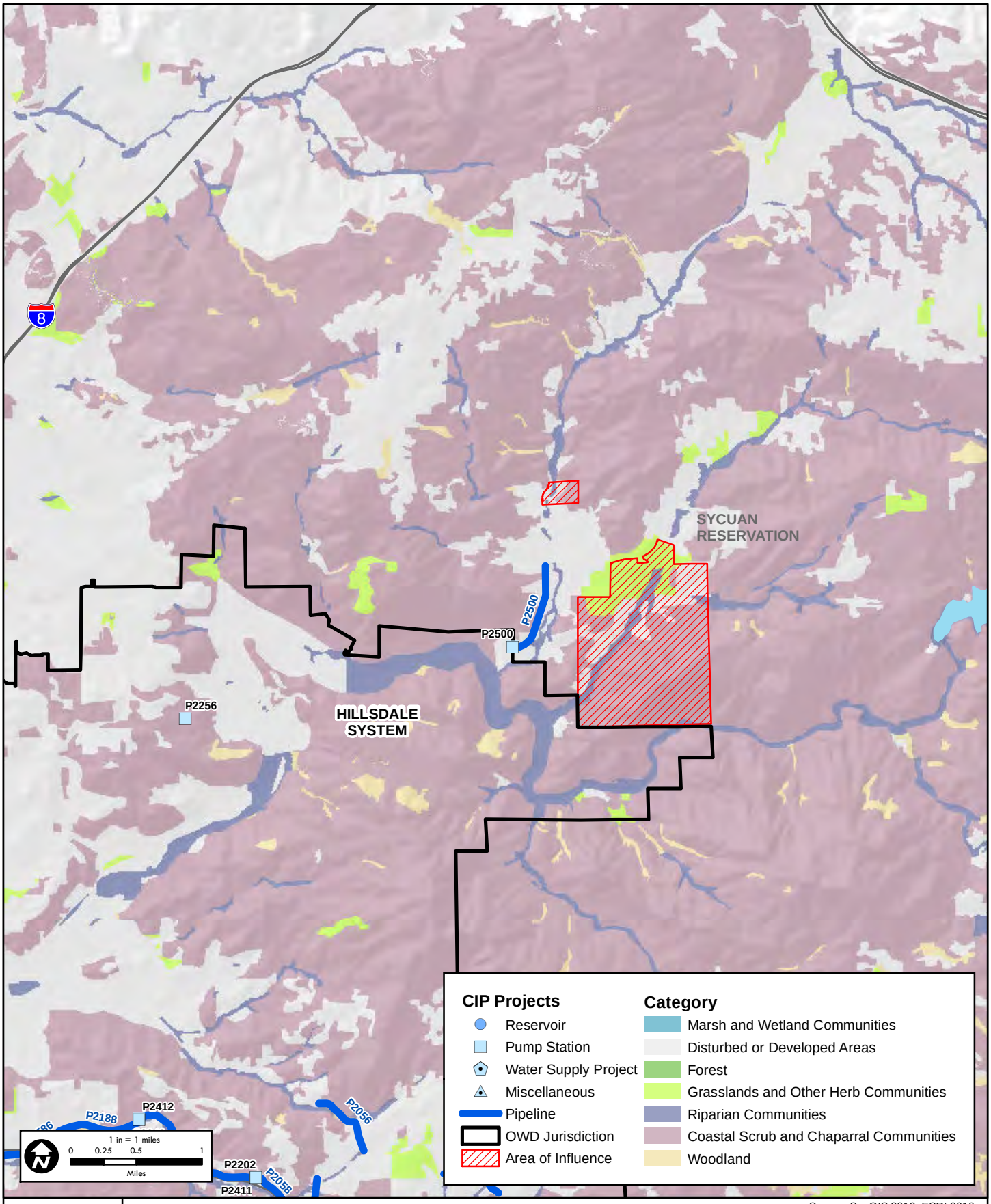
ATKINS

Figure 4.2-1

Vegetation Communities

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.2-1 Vegetation Coversheet.mxd



Source: SanGIS 2016, ESRI 2016

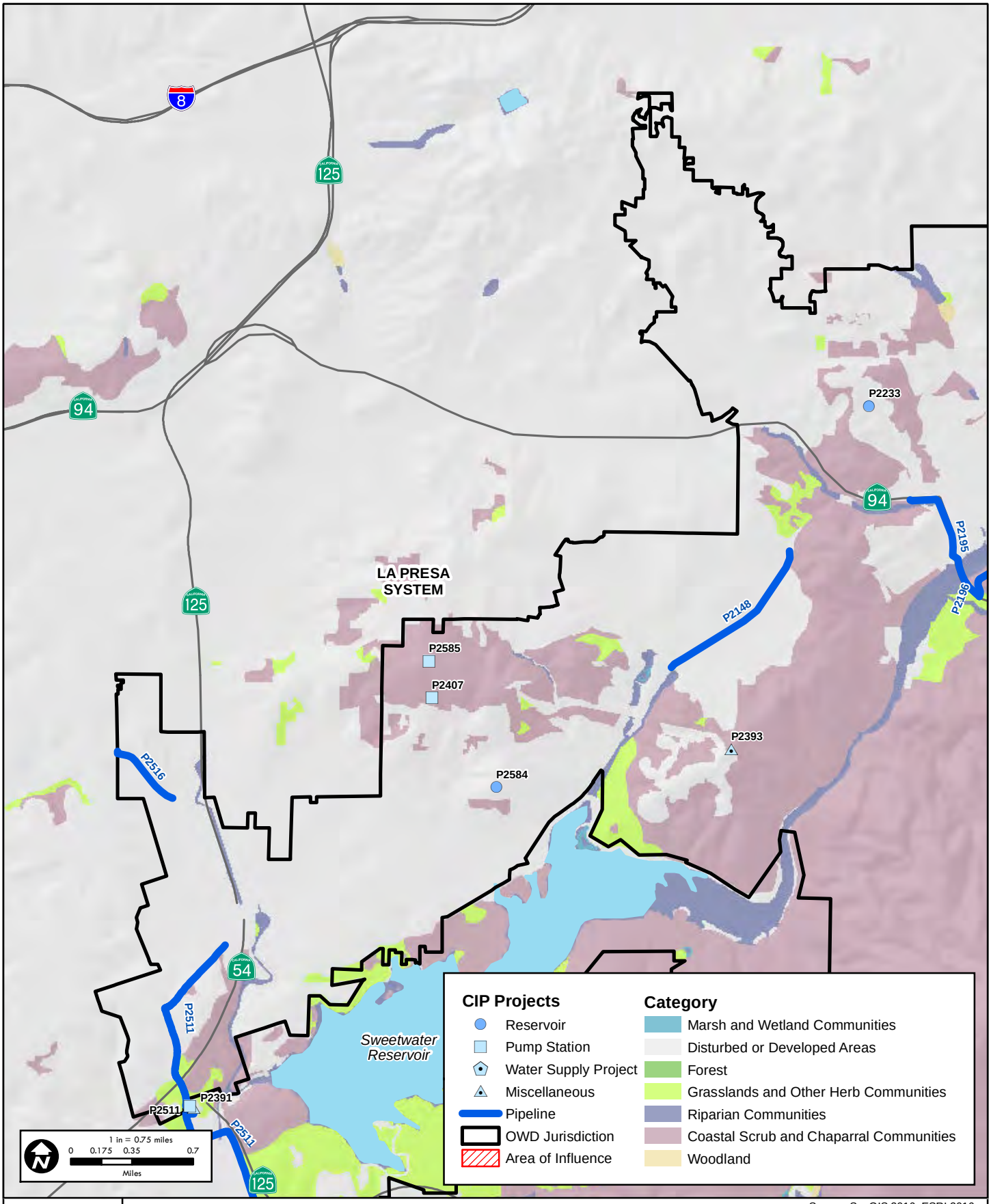
ATKINS

Figure 4.2-1a

Vegetation Communities - Hillsdale System

100038569 2015 OWD WFMP Update - EIR

7/25/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.2-1 Vegetation Mapbook.mxd



Source: SanGIS 2016, ESRI 2016

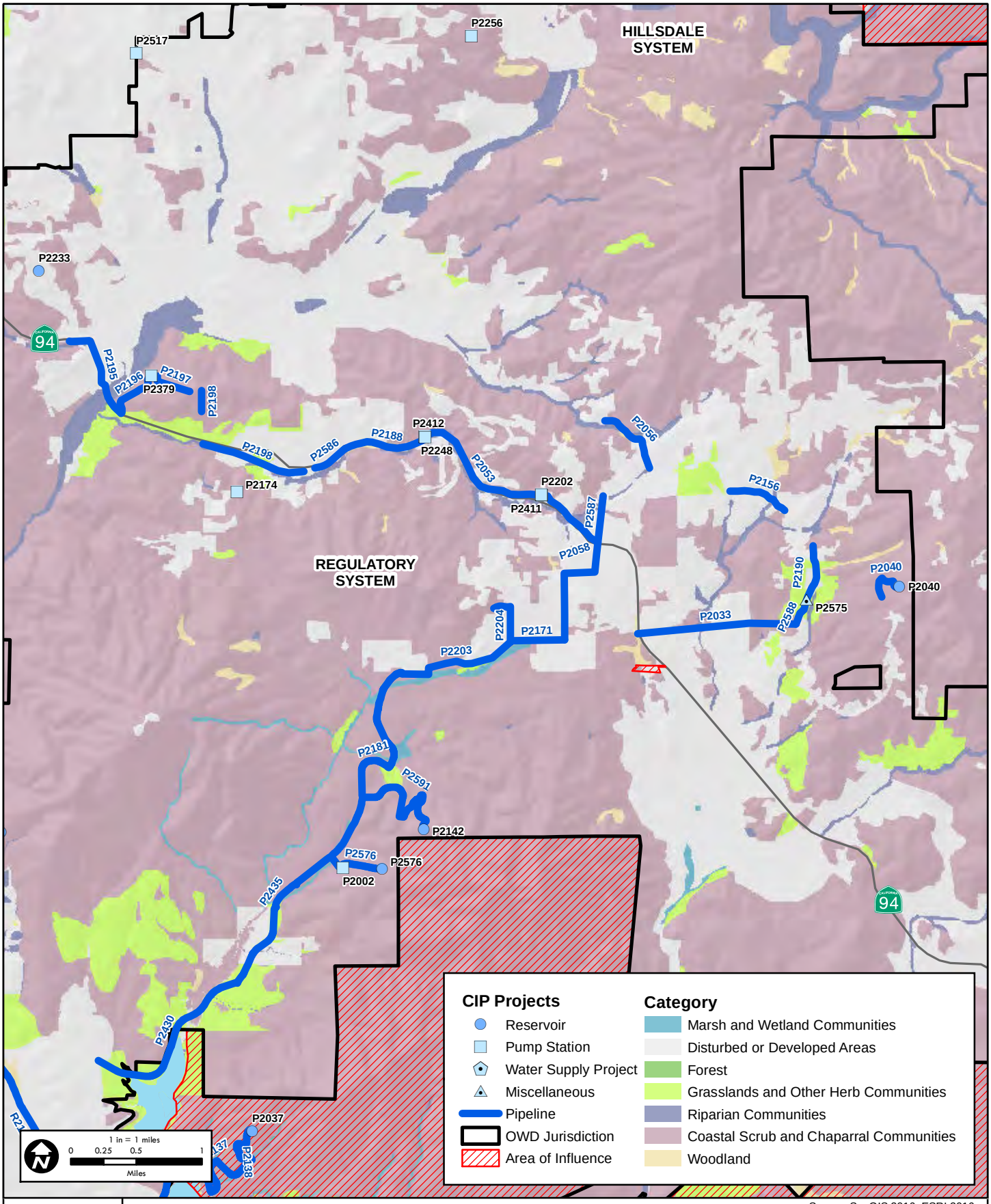
ATKINS

Figure 4.2-1b

Vegetation Communities - La Presa System

100038569 2015 OWD WFMP Update - EIR

7/25/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.2-1 Vegetation Mapbook.mxd



Source: SanGIS 2016, ESRI 2016

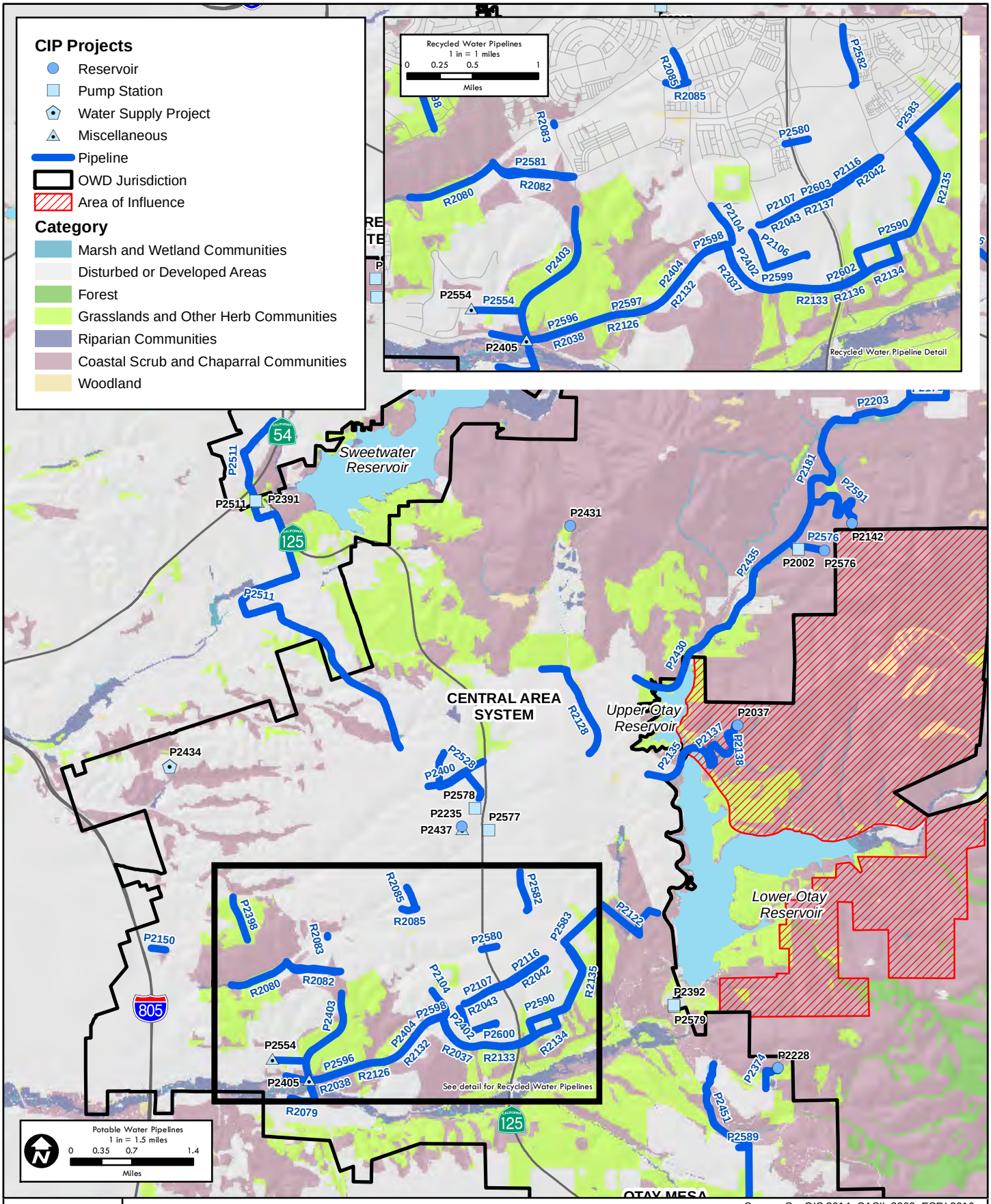
ATKINS

Figure 4.2-1c

Vegetation Communities - Regulatory System

100038569 2015 OWD WFMP Update - EIR

7/25/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.2-1 Vegetation Mapbook.mxd



Source: SanGIS 2014, CASIL 2009, ESRI 2016

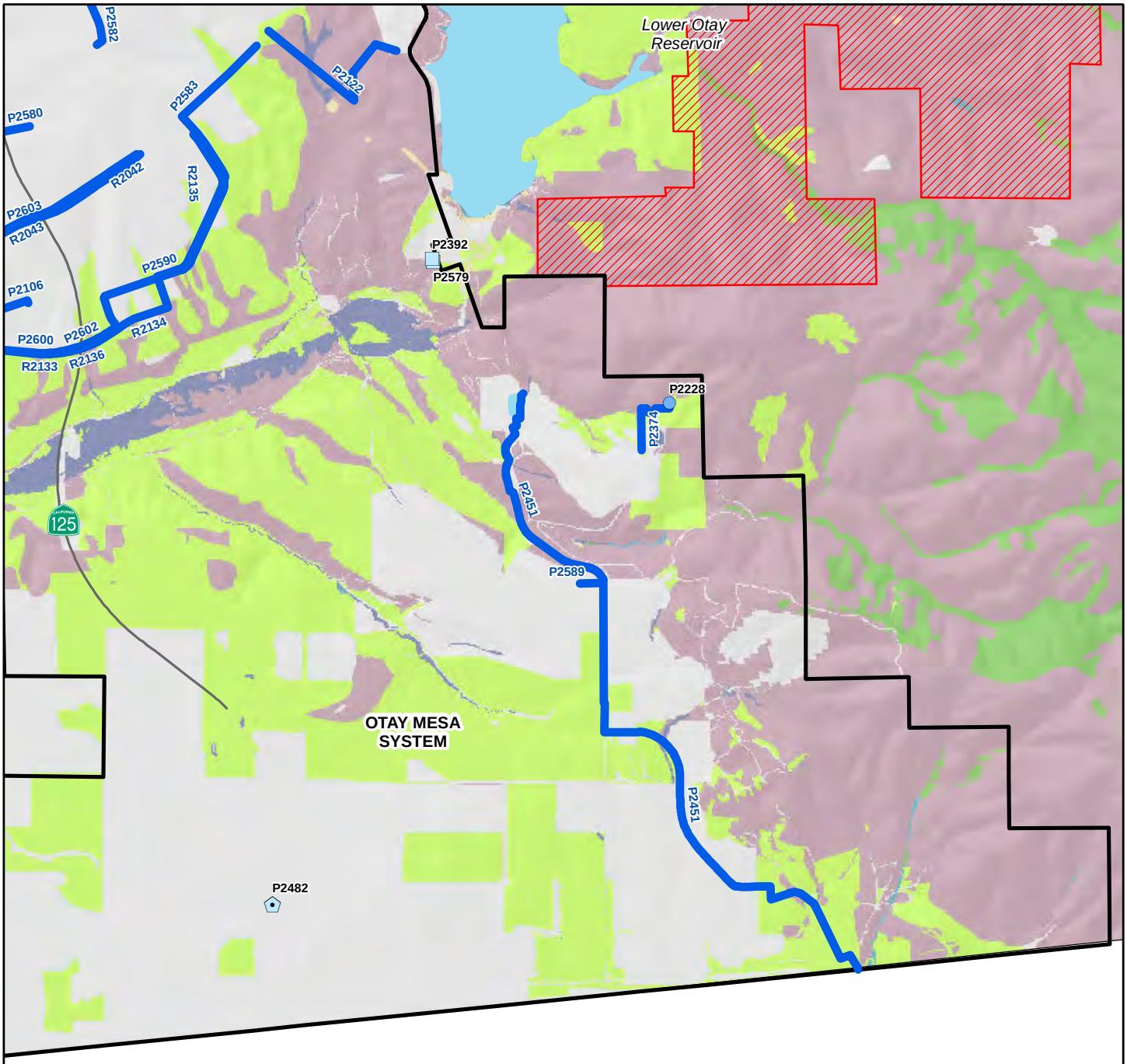
ATKINS

Figure 4.2-1d

Vegetation Communities - Central Area System

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.2-1d Vegetation.mxd



CIP Projects

- Reservoir
- Pump Station
- Water Supply Project
- Miscellaneous
- Pipeline
- OWD Jurisdiction
- Area of Influence

Category

- Marsh and Wetland Communities
- Disturbed or Developed Areas
- Forest
- Grasslands and Other Herb Communities
- Riparian Communities
- Coastal Scrub and Chaparral Communities
- Woodland

1 in = 0.75 miles
0 0.175 0.35 0.7
Miles

Source: SanGIS 2016, ESRI 2016

ATKINS

Figure 4.2-1e

Vegetation Communities - Otay Mesa System

100038569 2015 OWD WFMP Update - EIR

7/25/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.2-1 Vegetation Mapbook.mxd

Maritime succulent scrub is a low-lying, relatively open scrub dominated by cacti and succulents. Maritime succulent scrub occurs in the Otay Mesa area. Species found within this community include San Diego barrelcactus (*Ferocactus viridescens*), California boxthorn (*Lycium californicum*), strawberry cactus (*Mammillaria dioica*), coastal pricklypear (*Opuntia littoralis*), chaparral pricklypear (*Opuntia oricola*), coastal cholla (*Cylindropuntia prolifera*), jojoba (*Simmondsia chinensis*), California sagebrush, lemonade sumac (*Rhus integrifolia*), and cliff spurge (*Euphorbia misera*).

Southern mixed chaparral is composed of broad-leaved shrubs which are typically deep rooted. Shrubs are generally tall (between 10 and 20 feet) and occur on dry, rocky, often steep slopes with little soil. In drier situations the understory may be dominated by a limited number of species; in shaded and more mesic conditions the understory can be varied with species of ferns, subshrubs, herbaceous perennials, bulbs, and annuals. Characteristic species of this community are Eastwood's manzanita (*Arctostaphylos glandulosa* ssp. *glandulosa*), woolyleaf ceanothus (*Ceanothus tomentosus*), smooth mountain mahogany (*Cercocarpus minutiflorus*), chamise, hollyleaf redberry (*Rhamnus ilicifolia*), sugar sumac (*Rhus ovata*), and fuchsiaflower gooseberry (*Ribes speciosum*).

Forest

Southern interior cypress forest is a dense forest occurring at elevations between 500 and 3,600 feet AMSL, dominated by Tecate cypress (*Cupressus forbesii*), Cuyamaca cypress (*C. arizonica* var. *stephensonii*), or Piute cypress (*C. nevadensis*). The understory can consist of chaparral and scrub species including chamise (*Adenostoma fasciculatum*), Otay manzanita (*Arctostaphylos otayensis*), California buckwheat, toyon, Otay Mountain ceanothus (*Ceanothus otayensis*), chaparral pea (*Pickeringia montana*), and southern mountain misery (*Chamaebatia australis*). This forest can also occur as isolated groves within chaparral communities.

Grasslands

Native grasslands are found on clay substrates dominated by nodding needlegrass (*Stipa cernua*) and purple needlegrass (*Stipa pulchra*). This vegetation type is scattered throughout foothills in the planning area. Species associated with this community include wild oats (*Avena fatua*), ripgut grass (*Bromus diandrus*), foxtail brome (*Bromus madritensis* ssp. *rubens*), tocalote (*Centaurea melitensis*), and summer mustard (*Hirschfeldia incana*).

Non-native grassland is a dense to sparse cover of annual grasses, primarily Eurasian grasses, often associated with slender oat (*Avena barbata*), red brome, soft brome (*Bromus hordeaceus*), ripgut grass, shortpod mustard (*Hirschfeldia incana*), rat-tail fescue (*Vulpia myuros*), and common Mediterranean grass (*Schismus barbatus*). This association is usually found within deep, fine-textured, clay soils.

Riparian

Mule fat scrub is a riparian scrub community dominated by mule fat (*Baccharis salicifolia*) and interspersed with shrubby willows (*Salix* spp.). This habitat occurs along intermittent stream channels with a fairly coarse substrate and moderate water table depth. Species associated with this community include arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), narrowleaf willow (*Salix exigua*), Hooker's evening primrose (*Oenothera elata*), and hummingbird trumpet (California fushia) (*Epilobium canum*).

Southern coast live oak riparian forest typically contains dense evergreen riparian woodlands dominated by coast live oak. Associated species include California wildrose (*Rosa californica*), Douglas' sagewort (*Artemisia douglasiana*), mule fat, and stinging nettle (*Urtica holosericea*).

Southern cottonwood-willow riparian forest contains tall, broad-leafed species, which are predominantly Fremont cottonwood (*Populus fremontii*) and several willow species. This vegetation community is usually found along streams and rivers. Species associated with this community include black willow (*Salix goodingii*), narrowleaf willow, arroyo willow, mule fat, western sycamore, hoary nettle (*Urtica dioca*), and blue elderberry.

Southern willow scrub consists of dense, broadleaved, winter-deciduous stands of trees dominated by arroyo willow. This habitat occurs on loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows.

Marsh and Wetland Communities

Coastal freshwater marsh occurs along the edges of ponds, creeks, and riverbeds. This vegetation community features saturated soils, standing water, and remains wet throughout most of the year. Species associated with coastal freshwater marsh are broadleaf cattail (*Typha latifolia*), southern cattail (*Typha domingensis*), California bulrush (*Schoenoplectus californicus*), chairmaker's bulrush (*Schoenoplectus americanus*), tall flatsedge (*Cyperus eragrostis*), and spikerush (*Eleocharis montevidensis*).

San Diego Mesa claypan vernal pools have basins sealed by a thick veneer of clay. They occur on marine terraces and have finer textured soils than hardpan pools. They are often associated with chamise chaparral. Characteristic species found near these vernal pools include toothed calicoflower (*Downingia cuspidata*), shortseed waterwort (*Elatine brachysperma*), and Orcutt's quillwort (*Isoetes orcuttii*).

Disturbed and Developed

Disturbed

The planning area includes disturbed areas primarily in the southern and western portions. Disturbed land includes areas in which there is sparse vegetative cover and where there is evidence of soil surface disturbance and compaction from previous human activity and/or the presence of building foundations and debris. Vegetation on disturbed land (if present) has a high predominance of non-native and/or weedy species that are indicators of surface disturbance and soil compaction, such as Russian thistle (*Salsola tragus*), telegraph weed (*Heterotheca grandiflora*), horehound (*Marrubium vulgare*), and sow-thistle (S*onchus oleraceus*). Disturbed habitat is not considered sensitive, and no mitigation is required for impacts.

Developed Areas

The planning area includes several developed, urbanized areas primarily in the southern and western portions, containing structures, roads and infrastructure facilities.

MSCP Open Space Reserves

The planning area contains portions of the County of San Diego, City of San Diego, and City of Chula Vista MSCPs and the San Diego National Wildlife Refuge (Figure 4.2-2 and Figure B-4 in Appendix B). An MSCP is a long-term regional conservation plan designed to establish a connected preserve system that ensures the long-term survival of sensitive plant and animal species and protects the native vegetation found throughout San Diego County, and is discussed further in Section 4.2.2.3 below.

Wildlife Movement Corridors

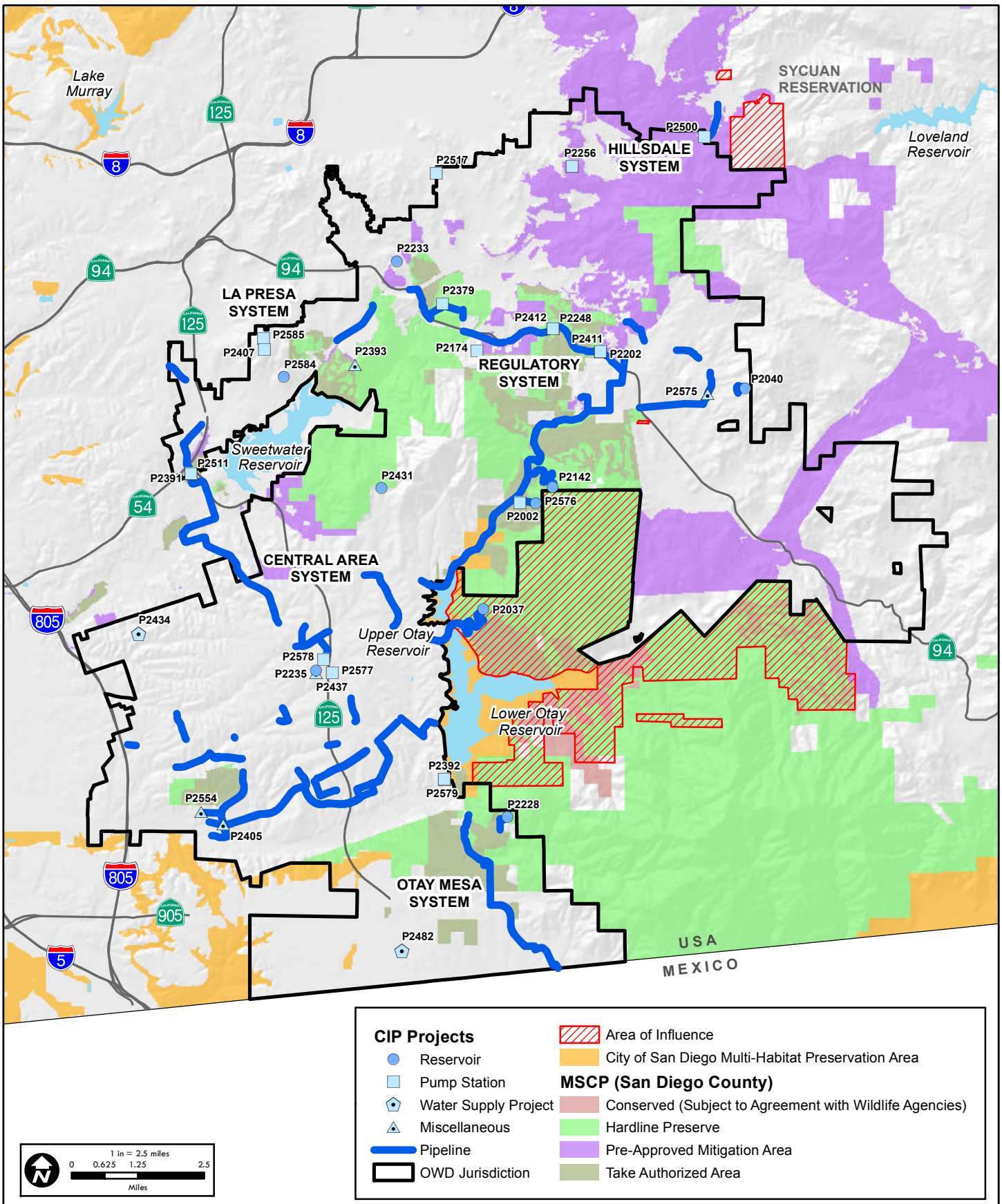
Development within San Diego County has reduced the total available open space for wildlife populations, and in some instances, created isolated "islands" of wildlife habitat. Wildlife movement corridors are areas of wildlife habitat that connect larger areas of habitat which are otherwise separated by rugged terrain, changes in vegetation, or urban development. This allows for an exchange of individuals between wildlife populations, which increases the genetic viability of otherwise isolated populations. Wildlife corridors are especially important for species with large habitat ranges or seasonal migrations.

The County of San Diego MSCP has identified 16 core biological resource areas and associated wildlife movement corridors, totaling approximately 203,000 acres of habitat within the San Diego region. Three habitat linkages within the planning area (Figure 4.2-3) include the area (1) along Sweetwater River between San Miguel Mountain and McGinty Mountain; (2) between Otay Mountain and Jamul Mountains to Sycuan Peak; and (3) between San Miguel Mountain and Rancho del Rey.

Jurisdictional Waters and Wetlands

Federal waters of the U.S. are those areas regulated by Section 404 of the CWA, which gives the U.S. Environmental Protection Agency and USACE regulatory and permitting authority. Waters of the U.S. include the following: (1) waters used for commerce and subject to tides; (2) interstate waters and wetlands; (3) "other waters" such as intrastate lakes, rivers, streams, and wetlands; (4) impoundments of waters; (5) tributaries of waters; (6) territorial seas; and (7) wetlands adjacent to waters. "Waters of the State" are regulated by the RWQCB and the CDFW. Waters of the State are defined under Section 401 of the CWA as "any surface water or groundwater, including saline waters, within the boundaries of the state." RWQCB jurisdiction is considered congruent with that of USACE jurisdiction.

Due to the programmatic level of analysis contained in this PEIR, a formal study to delineate wetlands within the planning area was not conducted. However, both USACE and CDFW jurisdictional wetlands occur within the planning area boundaries (Figure B-1 in Appendix B), according to the USFWS National Wetland Inventory database (USFWS 2016).



Source: SanGIS 2016, ESRI 2016

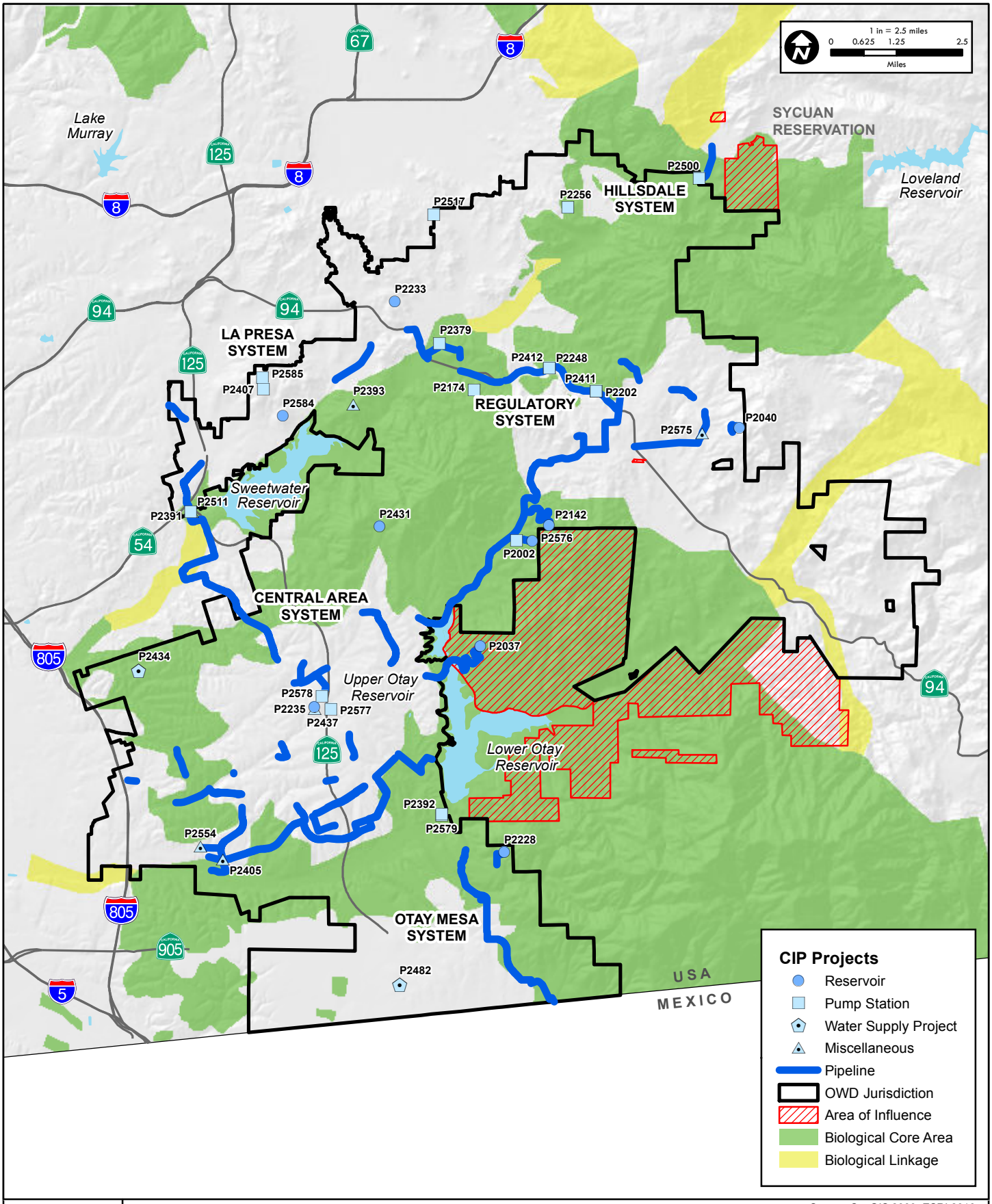
ATKINS

Figure 4.2-2

MSCP Open Space Reserves

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.2-2 MSCP Open Spaces.mxd



Source: SanGIS 2009, ESRI 2016

ATKINS

Figure 4.2-3

MSCP Wildlife Corridors

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.2-3 MSCP Wildlife Corridors.mxd

4.2.1.3 Special-Status Biological Resources

The following section addresses special-status biological resources which have the potential to occur within the planning area. For the purposes of this PEIR, "special status" species include plant and animal species that have been recognized by either federal or state resource management agencies, conservation organizations, or MSCP documents as having special management needs due to limited distribution, limited numbers, or significant population declines associated with natural or manmade causes. Special-status species include those designated as endangered, threatened, rare, protected, sensitive, or species of special concern according to the USFWS, CDFW, or applicable regional plans, policies, or regulations.

In general, the principal reason an individual taxon (species, subspecies, or variety) is given special status recognition is the documented or perceived decline or limitation of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss. Special-status biological resources also include vegetation types and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. These resources have been defined by federal, state, and local government conservation programs.

Sensitive biological resources are defined as the following: (1) vegetation communities that are unique, of relatively limited distribution, or of particular values to wildlife; and (2) species that have been given special recognition by federal or state agencies, or are included in the MSCPs due to limited, declining, or threatened populations.

Sensitivity Designations

Federal listing of endangered and threatened wildlife and plants is administered by the USFWS. The USFWS also recognizes species of special concern that are candidates for listing. Before a plant or animal species can receive protection under the Federal Endangered Species Act (FESA), it must first be placed on the federal list. The program follows a strict legal process to determine whether to list a species. An "endangered" species is defined as one that is in danger of extinction throughout all or a significant portion of its range. A "threatened" species is one that is likely to become endangered in the foreseeable future. The USFWS also maintains a list of plants and animals native to the United States that are species of special concern for possible addition to the federal list but that are not currently regulated.

The CDFW implements the California Endangered Species Act (CESA), which is a program that is similar in structure to, but different in detail from, the USFWS program implementing the FESA. The CDFW maintains a list of designated endangered, threatened, and rare plant and animal species. Listed species are either designated under the Native Plant Protection Act or designated by the Fish and Game Commission. In addition to recognizing three levels of endangerment, the CDFG affords interim protection to candidate species while they are being reviewed by the Fish and Game Commission. The CDFW also maintains a list of Species of Special Concern (SSC), most of which are species whose breeding populations in California may face local extinction. Although these species have no legal status, the CDFW recommends their consideration in order to protect declining populations and avoid the need to list them as endangered in the future. ~~The CESA also protects plant species, which the FESA does not.~~

Under the provisions of Section 15380(d) of the CEQA Guidelines, the lead agency, in making a determination of significance, must treat rare non-listed plant and animal species as equivalent to listed species if such species satisfy the minimum biological criteria for listing. In general, the CDFW considers

species on the California Rare Plant Rank (CRPR) 1A, 1B, or 2 lists on the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2016) as qualifying for consideration under this CEQA provision. Species with a CNPS CRPR 3 or 4 may, but generally do not, qualify for protection under this provision. Species with a CNPS CRPR 1A are "presumed extinct in California." Species on List 1B are "rare or endangered in California and elsewhere." Species with a CNPS CRPR 2 are "rare or endangered in California and are more common elsewhere." Species with a CNPS CRPR 3 or 4 are those which require more information to determine status and plants of limited distribution, respectively.

The primary information source on the distribution of special-status species in California is the CNDDB inventory, which is maintained by the Wildlife and Habitat Data Analysis Branch of the CDFW. The CNDDB inventory provides the most comprehensive state-wide information on the location and distribution of special-status species and sensitive natural communities. Occurrence data are obtained from a variety of scientific, academic, and professional organizations; private consulting firms; and knowledgeable individuals; and is entered into the inventory as expeditiously as possible. The occurrence of a species of concern in a particular region is an indication that an additional population may occur at another location if habitat conditions are suitable. However, the absence of an occurrence in a particular location does not necessarily mean that special-status species are absent from the area in question, only that no data has been entered into the CNDDB inventory.

Sensitive Vegetation Communities

The following vegetation communities (described in Section 4.2.1.3 above) within the planning area are considered to be sensitive by resource agencies:

- Diegan coastal sage scrub
- Coast live oak woodland
- Southern sycamore-alder riparian woodland
- Sycamore alluvial woodland
- Gabbroic chaparral (including chamise chaparral and mixed chaparral)
- Maritime succulent scrub
- Southern interior cypress forest
- Native grassland
- Mule fat scrub
- Southern coast live oak riparian forest
- Southern cottonwood-willow riparian forest
- Southern willow scrub
- Coastal freshwater marsh
- San Diego mesa claypan vernal pool
- Non-native grassland

Special Status Plants

Table 4.2-1 lists the federally and state- listed plant species that area known to occur in the planning area. Table 4.2-2, and Figure B-2 present the known occurrences of the listed species. The complete list of the 77 special-status plant species that potentially occur within the planning area are included in Appendix B. Nomenclature of these species conforms to Jepson et al (2012). Habitat requirements were derived from the following online databases CNPS rare species online inventory (CNPS 2016), Calflora (2016), USFWS

(2016) and CDFW (2016). Most of the special-status plant species within the planning area are CNPR List 1B or 2 species, none are on List 3, and eight are on List 4.

The service area figures located in Appendix B present CNDDB and SANGIS data for federally listed species documented in the planning area (CDFW 2016b, SANGIS 2016). Colored polygons on the figures can represent one individual siting of a species or a group of individuals. The size and shape of the colored polygon are determined by the life history and habitat requirements of the species, as well as the degree of certainty associated with the siting. Bird data including least Bell's vireo and coastal California gnatcatcher polygons include a buffer around individual species observations. Many of the plant species polygons included more than one individual.

Table 4.2-1 State and Federally Listed Plant Species within the OWD Planning Area

Common Name	Scientific Name	Status[1]	Notes
Mexican flannelbush	*Fremontodendron mexicanum*	E/-/1B	In the U.S., only occurs in southern San Diego County.
San Diego ambrosia	*Ambrosia pumila*	E/-/1B	In the U.S., occurs in San Diego and Riverside counties. Occurs in the San Diego National Wildlife Refuge in the planning area.
Otay tarplant	*Deinandra conjugens*	T (E)/-/1B[2] ~~E/-/1B~~	In the U.S., only occurs in southern San Diego County.
San Diego thorn-mint	*Acanthomintha ilicifolia*	T/E/1B	In the U.S., only occurs in San Diego County.
Spreading navarretia	*Navarretia fossalis*	T/-/1B	Occurs in vernal pools in southern California. In the planning area, it occurs in vernal pools in the Otay Service area.
Dehesa nolina	*Nolina interrata*	-/E/1B	In the U.S., only occurs in southern San Diego County.

[1]Federal/State/CNPS: E=endangered, T=threatened, List 1B are "rare or endangered in California and elsewhere."
[2]USFWS listed Otay tarplant as threatened in 1998, and CDFG listed the species as endangered in 1979
Sources: Calflora 2016, CDFW 2016b, CNPS 2016, OWD 2016, SANGIS 2016, SDNHM 2016, USFWS 2016

Table 4.2-2 Federally Listed Plant Species Known Occurrences within the OWD Planning Area

Species	Known Occurrences				
	Hillsdale	La Presa	Regulatory	Central	Otay
Mexican flannelbush					X
Otay tarplant		X	X	X	X
San Diego ambrosia			X		
San Diego thorn-mint					X
Spreading navarretia				X	X
Dehesa nolina	X		X		

Sources: Calflora 2016, CDFW 2016b, CNPS 2016, OWD 2016, SANGIS 2016, SDNHM 2016, USFWS 2016

Special Status Animals

Table 4.2-3 lists the eight federally listed or candidate animal species likely to occur in the planning area. Table 4.2-4 presents the known occurrences of the listed species. The complete list of the 51 special-status animal species that potentially occur within the planning area are included in Appendix B. Of these species

twenty-five (25) are birds, twelve (12) are mammals, eight (8) are reptiles, two (2) are amphibians, and five (5) are invertebrates, including crustaceans and insects.

Nomenclature of these species conforms to CDFW (2016c), American Ornithological Union (AOU 2016, Auk 2015) for birds; California Herps (2016) and Stebbins (2003) for reptiles and amphibians; and *The Revised Checklist of North American Mammals North of Mexico* (Museum of Texas Tech University 2003) for mammals.

Table 4.2-3 Federally Listed Animal Species within the OWD Planning Area

Common Name	Scientific Name	Status[1]	Notes
Arroyo toad	*Anaxyrus californicus*	E/-/SSC	Occurs in suitable stream and adjacent upland habitat in the planning area.
Coastal California gnatcatcher	*Polioptila californica*	T/-/	Occurs in Diegan coastal sage scrub throughout the planning area.
Hermes copper butterfly	*Lycaena hermes*	C/	Occurs in the planning area near its host plant holly-leaf redberry (*Rhamnus crocea*) in coastal sage scrub and chaparral vegetation.
Least Bell's vireo	*Vireo bellii pusillus*	E/E/	Occurs in riparian habitat in the planning area.
Quino checkerspot butterfly	*Euphydryas editha quino*	E/-/	Occurs in suitable coastal sage scrub and grassland habitat in the planning area. Host plant is dotseed plantain (*Plantago erecta*).
Riverside fairy shrimp	*Streptocephalus woottonii*	E/-/SSC	Occurs in vernal pools in the southern portion of the planning area.
San Diego fairy shrimp	*Branchinecta sandiegoensis*	E/-/SSC	Occurs in vernal pools in the planning area.
Southwestern willow flycatcher	*Empidonax traillii extimus*	E/E	Suitable riparian habitat occurs within the planning area but this species is not currently known to occur in the planning area.

[1] Federal/State/CDFW: E=endangered, T=threatened, C=Candidate, SSC=Species of Special Concern

Table 4.2-4 Listed Animal Species within the OWD Planning Area

Species	Known Occurrences				
	Hillsdale	La Presa	Regulatory	Central	Otay
Arroyo toad	X	X		X	X
Coastal California gnatcatcher	X	X	X	X	X
Hermes copper butterfly	X	X	X	X	X
Least Bell's vireo	X	X	X	X	X
Quino checkerspot butterfly	X	X	X	X	X
Riverside fairy shrimp					X
San Diego fairy shrimp			X	X	X

Sources: CDFW 2016b, OWD 2016, SANGIS 2016, USFWS 2016

Migratory Birds

Native avian species are protected under the conventions implemented by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC) Sections 3503, 3503.5, and/or 3513.

Critical Habitat

USFWS-designated critical habitat is defined as an area occupied by a species listed as threatened or endangered within which are found physical or geographical features essential to the conservation of the species, or an area not currently occupied by the species but is essential for the recovery of the species. Critical habitat has been designated for seven animals and five plants within the planning area. These critical habitat areas are shown in Figure B-3 (Appendix B), and presented in Table 4.2-5.

Table 4.2-5 Critical Habitat within the OWD Planning Area

Species	Critical Habitat Locations					Other
	Hillsdale	La Presa	Regulatory	Central	Otay	
Plants						
Mexican flannelbush					X	Village 13
Otay tarplant	X			X		
San Diego ambrosia			X			
San Diego thorn-mint	X					
Spreading navarretia				X	X	
Animals						
Arroyo toad	X				X	
Coastal California gnatcatcher	X	X	X			Village 13
Least Bell's vireo		X	X			Village 13
Quino checkerspot butterfly			X		X	
Riverside fairy shrimp					X	
San Diego fairy shrimp					X	
Southwestern willow flycatcher						

Sources: OWD 2016, SANGIS 2016, USFWS 2016

4.2.2 Regulatory Framework

4.2.2.1 Federal

Section 404 of the Clean Water Act

Section 404 of the CWA (33 United States Code (USC) 1344) requires that a permit be obtained from USACE prior to the discharge of dredged or fill materials into any "waters of the U.S.," including wetlands. Waters of the U.S. are broadly defined in the UCACE regulations (33 CFR 328) to include navigable waterways, their tributaries, lakes, ponds, and wetlands. Wetlands are defined as, "Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Such permits often require mitigation to offset losses of these habitat types. Wetlands that are not specifically exempt from Section 404 regulations (such as drainage channels excavated on dry land) are considered to be

"jurisdictional wetlands." USACE is required to consult with the EPA, USFWS, CDFW, SWRCB, and the various RWQCBs throughout the state in carrying out its discretionary authority under Section 404.

Section 401 of the CWA

A Section 401 Water Quality Certification (33 USC 1341), or waiver thereof, is required from the RWQCB before a Section 404 permit becomes valid. The RWQCB will review the project for consistency with Waste Discharge Requirements under the state land disposal regulations (Subchapter 15). In reviewing the project, the RWQCB will also consider impacts to waters of the U.S., in addition to filling of wetlands, in accordance with the state wetland policy. Usually, mitigation is required (if not already a condition of the 404 permit) in the form of replacement or restoration of adversely impacted waters of the U.S.

Migratory Bird Treaty Act of 1918

The MBTA of 1918 (16 USC 703-712~~711~~) implements an international treaty for the conservation and management of bird species that may migrate through more than one country. It is enforced in the United States by the USFWS, and makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered a "take" and is potentially punishable by fines and/or imprisonment. The term "take" is defined by the FESA to include the concept of "harm," which agency regulations define to include death or injury that results from modification or destruction of a species habitat (50 CFR Section 17.3). Migratory birds include geese, ducks, shorebirds, raptors, songbirds, and many other species. A final revised list of birds protected by the MBTA was published in November 2013 (USFWS 2013).

Bald and Golden Eagle Protection Act

Enacted in 1940, this Act (16 USC 668-668d) prohibits the take, transport, sale, barter, trade, import, export, and possession of bald eagles, making it illegal for anyone to collect bald eagles and eagle parts, nests, or eggs without authorization from the Secretary of the Interior. The Act was amended in 1962 to extend the prohibitions to the golden eagle.

Federal ESA of 1973

The United States Congress passed the FESA (16 USC 1531-1544) in 1973 to provide a means for conserving the ecosystems that endangered and threatened species require in order to prevent species extinctions. The FESA has four major components: the Section 4 provisions for listing species and designating critical habitat; the Section 7 requirement for federal agencies to ensure, in consultation with the Service, that their actions are not likely to jeopardize the continued existence of species or result in the modification or destruction of critical habitat; the Section 9 prohibition against "taking" listed species; and the Section 10 provisions for permitting the incidental take of listed species.

Section 9 of the FESA

Section 9 of the FESA prohibits any person from "taking" an endangered animal species. Regulations promulgated by USFWS and National Oceanic and Atmospheric Administration make the "take"

prohibition generally applicable to threatened animal species as well (50 CFR Section 17.71). Section 9 thus prohibits the clearing of habitat that results in death or injury to members of a protected species.

An authorization to incidentally take listed species can be obtained either through a Section 7 Biological Opinion or through a Section 10 take permit issued pursuant to a HCP. In the context of Section 7, incidental take is authorized through an incidental take statement (ITS) that is issued as part of a Biological Opinion. Measures required to conform to the ITS are contained in "reasonable and prudent measures," as are the terms and conditions necessary to implement those measures. In the context of Section 10, incidental take is authorized through an incidental take permit (ITP) issued pursuant to Section 10(a)(1)(B). Measures contained in the ITP reflect the measures set out in an HCP developed by the applicant in conjunction with the USFWS.

Section 7 of the FESA

Section 7 of the FESA provides that each federal agency must ensure, in consultation with the Secretary of Interior or Commerce, that any actions authorized, funded, or carried out by the agency are "not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of lands determined to be critical habitat" (16 USC Section 1536(a)(2)). The term "agency action" is broadly defined in a manner that includes nearly all actions taken by federal agencies as well as actions by private parties which require federal agency permits or approval (50 CFR Section 402.02). The consultation requirement of Section 7 is triggered upon a determination that a proposed action "may affect" a listed species or designated critical habitat (50 CFR Section 402.14(a)). If the proposed action is a "major construction" activity, the federal agency proposing the action must prepare a biological assessment to include with its request for the initiation of Section 7 consultation.

Included in the Biological Opinion is an ITS that authorizes a specified level of take anticipated to result from the proposed action. The ITS contains "reasonable and prudent measures" that are designed to minimize the level of incidental take and that must be implemented as a condition of the take authorization (50 CFR Section 402.14(i)(5)).

The issuance of a Biological Opinion concludes formal consultation, but consultation can be reinitiated if the amount or extent of incidental take authorized is exceeded, the action changes, new information reveals effects of the action not previously considered, or a new species is listed or critical habitat is designated (50 CFR Section 402.16).

Section 10 of the FESA

Under Section 10(a)(1)(B) of the FESA, the USFWS may permit the incidental take of listed species that may occur as a result of an otherwise lawful activity. To obtain a Section 10(a)(1)(B) permit, an applicant must prepare an HCP that meets the following five criteria: (1) the taking will be incidental to an otherwise lawful activity; (2) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; (3) the applicant will ensure that adequate funding for the plan will be provided; (4) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and (5) other measures, if any, that the USFWS requires as being necessary or appropriate for purposes of the plan will be met (16 USC Section 1539(a)(2)(A)).

USFWS San Diego National Wildlife Refuge

The Otay-Sweetwater Unit of the San Diego NWR encompasses portions of "100% Preserve" areas identified in the City of Chula Vista MSCP Subarea Plan, generally located along the Otay River Valley in the southwest portion of the planning area (Figure B-4 located in Appendix B). The entire San Diego NWR comprises 44,000 acres and contains important preserves of coastal sage and chaparral habitats.

4.2.2.2 State

California Endangered Species Act

The CESA declares that deserving plant or animal species will be given protection by the state because they are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the state. CESA establishes that it is state policy to conserve, protect, restore, and enhance endangered species and their habitats. Under state law, plant and animal species may be formally designated as rare, threatened, or endangered through official listing by the California Fish and Game Commission. Listed species are given greater attention during the land use planning process by local governments, public agencies, and landowners than are species that have not been listed.

On private property, endangered plants may also be protected by the Native Plant Protection Act (NPPA) of 1977. Threatened plants are protected by CESA, and rare plants are protected by the NPPA; however, CESA authorizes that "Private entities may take plant species listed as endangered or threatened under the FESA and CESA through a federal ITP issued pursuant to Section 10 of the FESA, if the CDFW certifies that the ITS or ITP is consistent with CESA." In addition, CEQA requires disclosure of any potential impacts on listed species and alternatives or mitigation that would reduce those impacts.

CEQA: Treatment of Listed Plant and Animal Species

FESA and CESA protect only those species formally listed as threatened or endangered (or rare in the case of the state list). Section 15380 of the CEQA Guidelines independently defines "endangered" species of plants or animals as those whose survival and reproduction in the wild are in immediate jeopardy and "rare" species as those who are in such low numbers that they could become endangered if their environment worsens. Therefore, a project normally will have a significant effect on the environment if it will substantially affect a rare or endangered species of animal or plant or the habitat of the species. The significance of impacts to a species under CEQA must be based on analyzing actual rarity and threat of extinction despite legal status or lack thereof.

California Code of Regulations Title 14, Section 783.4(a) and (b)

This section of the California Code of Regulations establishes standards for incidental take permit review. Section 783.4(a) requires that a permit may only be issued if the criteria from Section 2080 (b) of the Fish and Game Code are met. Section 783.4(b) states that no incidental take permit shall be issued if it would jeopardize the continued existence of the species, based on the best scientific and other information that is reasonably available. This includes consideration of the species' capability to survive and reproduce, and any adverse impacts of the taking on those abilities in light of: (1) known population trends; (2) known threats to the species; and (3) reasonably foreseeable impacts on the species from other related projects and activities.

California Fish and Game Code Sections 1601 to 1603

Streambeds and other drainages that occur within a CIP site are subject to regulation by the CDFW. The CDFW considers most drainages to be "streambeds" unless it can be demonstrated otherwise. A stream is defined as a body of water that flows at least periodically or intermittently through a bed or channel with banks and supports fish or other aquatic life. This includes watercourses having a surface or sub-surface flow that supports, or has supported, riparian vegetation. CDFW jurisdiction typically extends to the edge of the riparian canopy and, therefore, usually encompasses a larger area than USACE jurisdiction. A Streambed Alteration Agreement must be obtained from the CDFW prior to commencement of any activity that would substantially divert or obstruct the natural flow, or substantially change the bed, channel or bank (which may include associated riparian resources), of a 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.

California Fish and Game Code Sections 2081~~0~~(b) and 2081~~0~~(c)

These sections of the Fish and Game Code establish that the CDFW may authorize, by permit, the take of endangered species, threatened species, and candidate species if: (1) the take is incidental to an otherwise lawful activity; (2) the impacts of the authorized take are minimized and fully mitigated; (3) the permit is consistent with any regulations adopted pursuant to Sections 2112 and 2114, which relate to recovery strategies; and (4) the applicant ensures adequate funding to implement proposed mitigation measures, and for monitoring compliance with, and effectiveness of, those measures. ~~This regulation differs from the CESA because it requires project impacts to be fully mitigated, with adequate funding ensured.~~

California Fish and Game Code Sections 3503 and 3503.5~~, and 3800~~

These sections of the Fish and Game Code prohibit the take or possession of birds, their nests, or eggs. Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a take. Such a take would also violate federal law protecting migratory birds. ITPs are required from the CDFW for projects that may result in the incidental take of species listed by the state as endangered, threatened, or candidate species. The permits require that impacts to protected species be minimized to the extent possible and mitigated to a level of insignificance.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act provides for statewide coordination of water quality regulations. The Act established the SWRCB as the state-wide authority and nine separate RWQCBs to oversee smaller regional areas within the state. The Act authorizes the SWRCB to adopt, review, and revise policies for all waters of the state (including both surface and ground waters); and directs the RWQCBs to develop regional Basin Plans. Section 13170 of the California Water Code also authorizes the SWRCB to adopt water quality control plans on its own initiative. The Basin Plan for the San Diego Region is designed to preserve and enhance the quality of water resources in the San Diego region for the benefit of present and future generations. The purpose of the plan is to designate beneficial uses of the region's surface and ground waters, designate water quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives.

Natural Community Conservation Planning Act of 1991

The Natural Community Conservation Planning (NCCP) Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land uses. CDFW is the principal state agency implementing the NCCP Program. The Act established a process to allow for comprehensive, regional multi-species planning in a manner that satisfies the requirements of the state and FESAs (through a companion regional HCP). The NCCP program has provided the framework for innovative efforts by the state, local governments, and private interests, to plan for the protection of regional biodiversity and the ecosystems upon which they depend. NCCPs seek to ensure the long-term conservation of multiple species, while allowing for compatible and appropriate economic activity to proceed.

CDFW Ecological Reserves

A system of ecological reserves and wildlife areas have been established throughout California to provide protection for plant and animal species and their habitats, especially those that are endangered or threatened (CDFW 2016d). The ecological reserve system was authorized by the state legislature in 1968. The mission of the reserve system is the conservation and protection of rare plants, animals and habitats, and to provide areas for education and scientific research. Portions of the CDFW Rancho Jamul and McGinty Mountain Ecological Reserves and the Hollenbeck Canyon Wildlife Area occur within the planning area (Figure 4.2-4). In addition, a portion of the CDFW Otay Mountain Ecological Reserve occurs within the "Area of Influence" associated with the planning area.

4.2.2.3 Local

MSCPs within the Planning Area

MSCPs are long-term regional conservation plans designed to establish connected preserve systems to ensure the long-term survival of sensitive plant and animal species and to protect the native vegetation found throughout 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 sensitive species and their habitats. The County of San Diego MSCP covers 582,243 acres over 12 jurisdictions. Each jurisdiction has its own subarea plan, which describes specific implementing mechanisms for the MSCP.

Any habitat set aside for the protection of biological resources in accordance with the MSCP is considered sensitive. The MSCP divides habitats into tiers based on sensitivity, with habitat rankings from Tier 1 (most sensitive) to Tier IV (least sensitive, includes disturbed land). The combination of the MSCP Subregional Plan and subarea plans serve as a multiple species HCP (pursuant to Section 10(a)(1)(B) of the FESA and the California NCCP Act of 1991 and CESA). The conservation measures specified in the MSCP provide for "coverage" of 85 species of plants and animals (called covered species) under these state and federal endangered species laws.

The City of San Diego MSCP subregional planning area encompasses 11 city jurisdictions, portions of unincorporated San Diego County, and a few special districts. The planning area falls within portions of the MSCP subarea plans for the County of San Diego, City of San Diego, and City of Chula Vista. The County of San Diego MSCP Subarea Plan was approved by the wildlife agencies in October 1997. The County subarea is located in the eastern part of the MSCP Subregion and encompasses 252,132 acres of developed and undeveloped land (184,248 acres is habitat), and 101,268 acres will be conserved. The City of San Diego MSCP Subarea Plan was approved in July 1997. This subarea plan encompasses 206,124 acres within the MSCP Subregion. Approximately 56,831 acres is classified as Multiple Habitat Planning Area

(MHPA), of which 90 percent (52,012 acres) will be preserved for biological purposes. The City of Chula Vista MSCP Subarea Plan was approved and adopted in May 2003. This subarea plan will preserve 9,243 acres, of which 4,993 acres are within the city limits and 4,250 acres are in the unincorporated area of San Diego County. As of January 13, 2005, the City of Chula Vista was issued a Section 10(a)(1)(b) ITP by the wildlife agencies, which grants the city long-term authorization to take (or impact) certain Covered Species as defined in the CESA. In addition, this ITP provides the city the authority to allow a landowner or other public or private entity to impact sensitive species covered under the city MSCP subarea plan.

County of San Diego Habitat Loss Permit Ordinance

The San Diego County Habitat Loss Permit (HLP) Ordinance was adopted in March 1994 in response to both the listing of the California gnatcatcher as a federally threatened species and the adoption of the NCCP Act by the State of California. ~~Pursuant to the Special 4(d) Rule under the CESA, signatories to the County of San Diego MSCP may be authorized to issue ITPs for the California gnatcatcher (in the form of HLPs) in lieu of Section 7 or 10(a) permits, which are typically required from the USFWS.~~ Although issued by individual jurisdictions, such as the City of San Diego, City of Chula Vista, and San Diego County, the wildlife agencies must concur with the issuance of a HLP for it to become valid as take authorization under the CESA. The HLP Ordinance states that projects within the unincorporated county must obtain an HLP prior to the issuance of a grading permit, clearing permit, or improvement plan if the project will directly or indirectly impact any coastal sage scrub habitat types. The Ordinance requires an HLP if coastal sage scrub or related habitat will be impacted, regardless of whether or not the site is occupied by California gnatcatcher. HLPs are not required for projects within the boundaries of the MSCP since take authorization is conveyed to those areas through compliance with the MSCP.

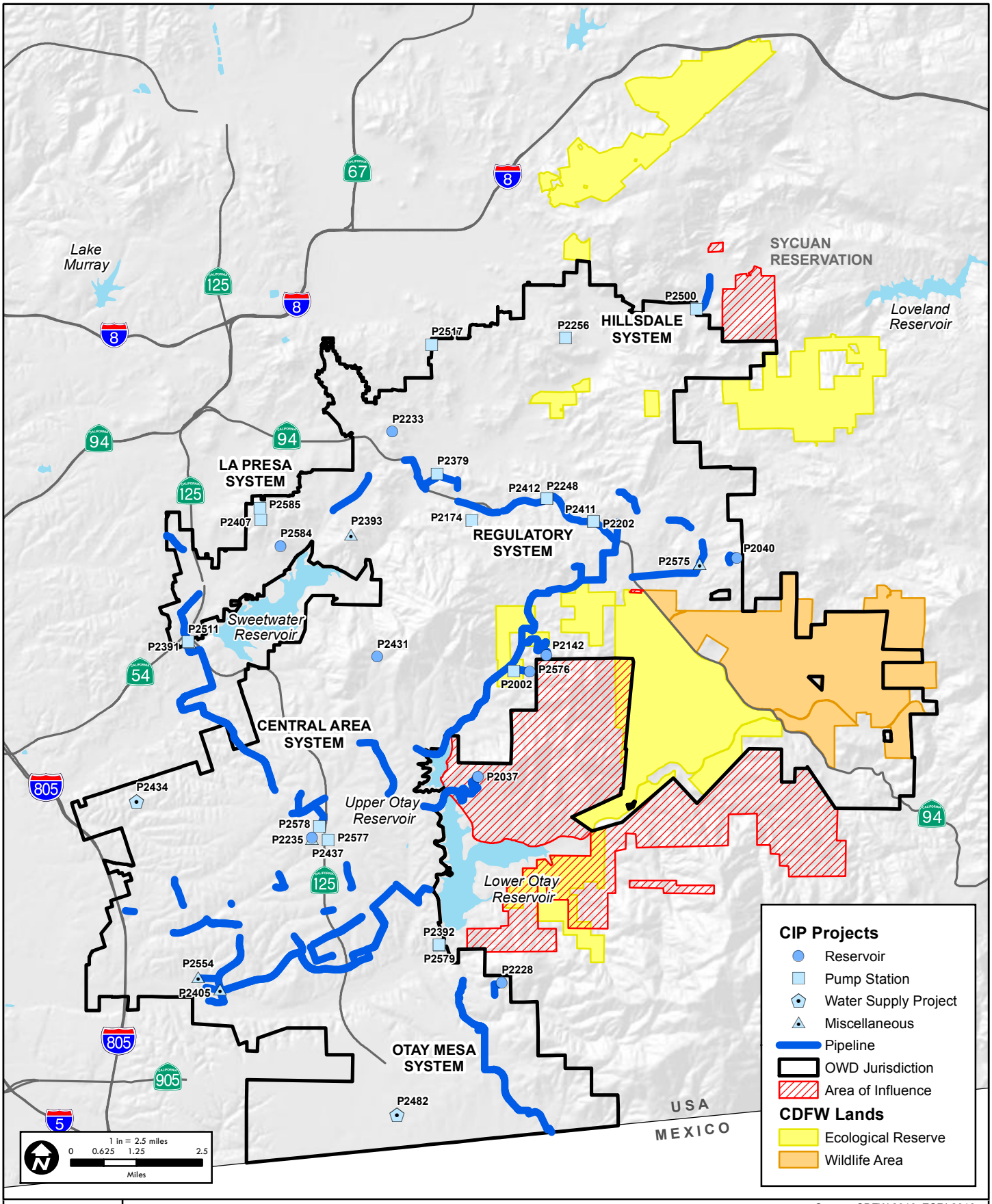
4.2.3 Project Impacts and Mitigation

4.2.3.1 Issue 1 – Sensitive Species and Habitats

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but not be limited to, the following SCP to reduce potential impacts to sensitive or special-status species or sensitive habitats.

Bio-SCP-1 After completion of final grading for CIPs located adjacent to native vegetation, the construction documents will require that all graded areas within 100 feet of native vegetation are hydroseeded and/or planted with native plant species similar in composition to the adjacent undisturbed vegetation communities. OWD or the construction contractor will retain a qualified biologist to monitor these activities to ensure non-native or invasive plant species are not used in the hydroseed mix or planting palettes. The hydroseeded/planted areas will be watered via a temporary drip irrigation system or watering truck. Irrigation will cease at some time after successful plant establishment and growth, to be determined by the biologist. No fertilizers or pesticides will be used in the hydroseeded/planted areas. Any irrigation runoff from hydroseeded/planted areas will be directed away from adjacent native vegetation communities, and contained and/or treated within the development footprint of individual projects. All planting stock will be inspected for exotic invertebrate pests (e.g., argentine ants) and any stock found to be infested with such pests will not be allowed to be used in the hydroseeded/planted areas.



Source: CDFW 2016, ESRI 2016

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Figure 4.2-4

CDFW Ecological Reserves and Wildlife Areas

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.2-4 CDFW Ecological Reserves Wildlife Areas.mxd

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if it would result in a substantial adverse effect, either directly or through habitat modifications, on any sensitive or special-status species or sensitive habitats identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

Impact Analysis

Potential biological impacts resulting from implementation of the 2015 WFMP Update would vary by CIP type (i.e., reservoirs, pump stations, pipelines, and groundwater wells), as discussed below.

Direct Impacts

Direct impacts include the direct destruction or displacement of biological resources from clearing, grubbing, grading, and other initial land disturbance activities. Implementation of the 2015 WFMP Update would have the potential to result in direct impacts to special-status plant and wildlife species and/or sensitive habitats. The impact acreages in Table 4.2-6 through Table 4.2-9 are based upon OWDs best surface disturbance estimates by project type (e.g. storage, pump station, pipeline), and latest CIP project locational data, combined with countywide vegetation community GIS data from SANDAG (2014). All impact acreage numbers are approximate. In conjunction with consultation with CDFW and USFWS, habitat type, presence, and quality, and sensitive species presence/absence would be verified by a qualified biologist prior to CIP project final design and construction as part of the tiered CEQA process referred to in Section 1.2 of this PEIR. Changes to the final design and construction would be made as necessary to reduce direct impacts.

Reservoir/Storage Projects

Construction of CIP potable water storage projects located within sensitive habitats could result in direct impacts to sensitive biological resources from temporary and permanent vegetation removal. Potable water storage CIP projects, and type and acreage of sensitive habitats potentially impacted by construction of the projects, are listed in Table 4.2-6. Coastal sage scrub, chaparral, and grassland habitat are likely to be directly impacted from the implementation of the proposed water storage CIPs. Disturbed or developed areas are not considered sensitive habitats.

Table 4.2-6 Potable Water Storage CIPs, Sensitive Habitat Types,

Project No.	System	Project Description	Sensitive Habitat	Approximate Impact (Acres)
Phase II (2017 - 2022)				
P2040	Regulatory	Res - 1655-1 Reservoir, 0.5 MG	Diegan Coastal Sage Scrub/ Chaparral	0.6/ 5.9
P2584	La Presa	Res - 657-1 and 657-2 Reservoir Demolitions	None (Urban/Developed)	--
Phase IIIA (2022 - 2050) – Projects Required Under Baseline Supply Assumptions				
P2037	Central	Res - 980-3 Reservoir, Resort Parcel, 4.0 MG	Diegan Coastal Sage Scrub	6.5
P2142	Regulatory	Res - 1296-4 Reservoir, Village 14, 2.0 MG	Diegan Coastal Sage Scrub	6.5
P2431	Central	Res - 980-4 Reservoir, 8.0 MG	Diegan Coastal Sage Scrub/ Non-native Grassland/ Eucalyptus Woodland	3.7/ 2.4/ 0.4
P2576	Central	Res - 980-5 Reservoir, Village 14, 2.0 MG	Diegan Coastal Sage Scrub	6.5

Table 4.2-6 Potable Water Storage CIPs, Sensitive Habitat Types,

Project No.	System	Project Description	Sensitive Habitat	Approximate Impact (Acres)
Phase IIIB (2023 - 2050) – Projects Required without Assumed New Supply Source(s)				
P2228	Otay Mesa	Res - 870-2 Reservoir, 7.0 MG (previously 10 MG)	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland	2.8/ 3.7
P2233	La Presa	Res - 640-3 Emergency Reservoir, 10.0 MG	None (Disturbed Habitat/ Urban/Developed	--
P2235	Central	Res - 624-4 Emergency Reservoir, 30.0 MG (previously 40 MG)	None (Extensive Agriculture)	--

Pump Station Projects

Construction of CIP pump stations located within sensitive habitats could result in direct impacts to sensitive biological resources from temporary and permanent vegetation removal. Pump station CIP projects, and sensitive habitats potentially impacted by construction of the projects, are listed in Table 4.2-7. Coastal sage scrub, chaparral, riparian, and grassland habitat are likely to be directly impacted from the implementation of the proposed pump station CIPs. Disturbed or developed areas are not considered sensitive habitats.

Table 4.2-7 Pump Station CIPs and Sensitive Habitat Types

Project No.	System	Project Description	Sensitive Habitat	Approximate Impact (Acres)
Phase II (2017 - 2022)				
P2393	La Presa	PS - Pointe Hydro Pump Station Expansion, from 240 to 400 gpm	Chamise Chaparral	2.9
P2579	Central	PS - Temporary Lower Otay Pump Station Rehabilitation	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland	1.2/ 0.2
P2174	Regulatory	PS - 1090-1 Pump Station Replacement and Expansion, from 280 to 400 gpm	Diegan Coastal Sage Scrub/ Southern Mixed Chaparral	1.4/ 0.3
Phase IIIA (2023 - 2050) – Projects Required Under Baseline Supply Assumptions				
P2002	Regulatory	PS - 1296 -2 Proctor Valley Pump Station, 4,000 gpm	Chamise Chaparral	2.9
P2256	Hillsdale	PS - 978-2 Pump Station, 1,500 gpm	Diegan Coastal Sage Scrub	2.9
P2391	Central to La Presa	PS - Perdue WTP Pump Station, 10,000 gpm	None ~~Coastal Sage/Chaparral~~	--
P2577	Central	PS - 980-2 Pump Station Expansion, from 12,000 to 16,000 gpm	None (Urban/Developed/ Extensive Agriculture)	--
P2578	Central	PS - 711-2 (PS 711-1 replacement), from 10,000 to 14,000 gpm	None (Urban/Developed/ Extensive Agriculture)	--
P2585	La Presa	PS - 1200-2 Pump Station, 1,000 gpm	Diegan Coastal Sage Scrub	2.9
P2202	Regulatory	PS - 1296-1 Pump Station Expansion, from 2,900 to 6,000 gpm	Diegan Coastal Sage Scrub	0.6
P2248	Regulatory	PS - 944-1 Pump Station Expansion, 3,000 to 6,000 gpm	Diegan Coastal Sage Scrub/ Southern Coast Live Oak Riparian Forest	1.3/ 1.6
P2379	Regulatory	PS - 832-1 Pump Station Expansion, from 4,200 to 6,800 gpm	Diegan Coastal Sage Scrub	2.9

Table 4.2-7 Pump Station CIPs and Sensitive Habitat Types

Project No.	System	Project Description	Sensitive Habitat	Approximate Impact (Acres)
P2411	Regulatory	PL - 1296/944 PRS Upgrade 1296-1 Pump Station Site	None ~~Coastal Scrub/Chaparral~~	--
P2412	Regulatory	PL - 944/832 PRS Upgrade 944-1 Pump Station Site	None ~~Coastal Scrub/Chaparral~~	--
Phase IIIB (2023 - 2050) – Projects Required without Assumed New Supply Source(s)				
P2392	Central	PS - Lower Otay PS Replacement and Expansion, from 12,500 to 18,000 gpm	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland	0.7/ 0.1

Pipeline Projects

Construction of CIP pipeline projects located within sensitive habitats could result in direct impacts to sensitive biological resources from temporary and permanent vegetation removal. Pipeline CIP projects, and sensitive habitats potentially impacted by construction of the projects, are listed in Table 4.2-8. Coastal sage scrub, chaparral, riparian, wetland, and grassland habitat are likely to be directly impacted from the implementation of the proposed pipeline CIPs. Disturbed or developed areas are not considered sensitive habitats.

Table 4.2-8 CIP Pipeline Projects and Sensitive Habitat Types

Project No.	System	Project Description	Sensitive Habitat	Approximate Impact (Acres)
Phase II (2017-2022)				
P2400	Central	PL - 16-in, 711 Zone, Otay Lakes Road - Rutgers Ave to Eastlake Pkwy	None (Urban/Developed/ Extensive Agriculture)	--
P2403	Central	PL - 12-in, 624 Zone, Heritage Road - Olympic/Otay Valley	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland	0.5/ 11.4
P2405	Central	PL - 624/340 PRS, Heritage Road and Hard Rock Road	Tamarisk Scrub	0.1
P2451	Otay Mesa	Otay Mesa Desalination Conveyance and Disinfection System	Diegan Coastal Sage Scrub/ Southern Mixed Chaparral/ Valley & Foothill Grassland/ Non-native Grassland/ Tamarisk Scrub	7.8/ 0.1/ 0.6/ 13/ 0.3
P2516	La Presa	PL - 12-in, 640 Zone, Jamacha Road - Darby/Osage	None (Urban/Developed)	--
P2553	Central	Heritage Road Bridge Replacement and Utility Relocation	Diegan Coastal Sage Scrub/ Freshwater Marsh/ Coastal & Valley Freshwater Marsh/ Southern Riparian Scrub/ Tamarisk Scrub ~~None~~	0.2/ < 0.1/ 0.2/ < 0.1/ 0.5
P2574	Hillsdale	PL - 12-Inch and 14-inch Pipeline Replacement, 803 and 978 Zone, Vista Grande, Pence Drive	Diegan Coastal Sage Scrub	1.3
Phase IIIA (2023 - 2050) – Projects Required Under Baseline Supply Assumptions				
P2104	Central	PL - 12-in, 711 Zone, La Media Road – Birch/Rock Mountain	None (Extensive Agriculture)	--
P2106	Central	PL - 12-in, 711 Zone, La Media Road – Rock Mountain/Otay Valley	None (Extensive Agriculture)	--

Table 4.2-8 CIP Pipeline Projects and Sensitive Habitat Types

Project No.	System	Project Description	Sensitive Habitat	Approximate Impact (Acres)
P2107	Central	PL - 16- in, 711 Zone, Rock Mtn Road – La Media Road	None (Extensive Agriculture)	--
P2116	Central	PL - 16- in, 711 Zone, Rock Mtn Road – SR 125/Eastlake Parkway	None (Extensive Agriculture)	--
P2135	Central	PL - 20-in, 980 Zone, Otay Lakes Road to Village 13	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland/ Freshwater Marsh/ Mule Fat Scrub/ Eucalyptus Woodland	5.9/ 1.7/ 0.2/ 0.2/ < 0.1
P2137	Central	PL - 20-in, 980 Zone, Village 13 to 980-3 Reservoir	Diegan Coastal Sage Scrub/ Cismontane Alkali Marsh/ Mule Fat Scrub	6.0/ 2.1/ < 0.1
P2138	Central	PL - 20-in, 980 Zone, 980-3 Reservoir Transmission PL	Diegan Coastal Sage Scrub/ Cismontane Alkali Marsh	4.8/ 0.2
P2148	La Presa	PL - 20-in, 980 Zone, Resort Parcel Transmission PL Phase 2	Diegan Coastal Sage Scrub ~~None~~	0.8
P2150	Central	PL - 16-in, 458 Zone, East Palomar Street - Medical Center/Raven	Diegan Coastal Sage Scrub ~~None~~	< 0.1
P2156	Regulatory	PL - 12-in, 1485 Zone, Olive Vista Drive Parallel	Chaparral/ Southern Coast Live Oak Riparian Forest	< 0.1/ 0.4
P2190	Regulatory	PL - 12-in, 1485 Zone, Jamul Highlands	Chaparral/ Valley & Foothill Grassland	0.6/ 1.9
P2398	Central	PL - 20-in, 624 Zone, Paseo Ladera between Telegraph/Olympic Upsizing	Non-native Grassland ~~None~~	6.3
P2402	Central	PL - 16-in, 624 Zone, La Media Road - Village 7/Otay Valley	Diegan Coastal Sage Scrub/ Valley and Foothill Grassland	< 0.1/ < 0.1
P2404	Central	PL - 12-in, 624 Zone, Rock Mtn Road - Village 4/Otay Valley	Diegan Coastal Sage Scrub/ Non-native Grassland	0.2/ 0.7
P2500	Hillsdale	Padre Dam - Otay Interconnection, Dehesa Valley	Diegan Coastal Sage Scrub/ Chaparral/ Southern Coast Live Oak Riparian Forest	0.3/ 0.3/ 0.1
P2554	Central	624/340 PRS at Energy Way and Nirvana Avenue	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland/ Non-native Grassland ~~None~~	< 0.1/ 0.7/ 0.4
~~P2575~~	~~Regulatory~~	~~1485/1296 PRS - Presilla Drive and Jamul Highlands Road~~	~~Grassland~~	
P2583	Central	PL - 20-in, 624 Zone, Otay Mesa Interconnect 711 PRS Bypass	Valley & Foothill Grassland ~~None~~	2.2
P2589	Otay Mesa	PL - 24-in, 871 Zone, Donovan Prison	None	--
P2590	Central	PL - 20-in, 624 Zone, Village 7	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland	0.9/ 6.6
P2033	Regulatory	PL - 16-in, 1296 Zone, Melody Road - Campo/Presilla	Diegan Coastal Sage Scrub/ Southern Coast Live Oak Riparian Forest/ Coast Live Oak Woodland	5.3/ < 0.1/ 0.1/ < 0.1

Table 4.2-8 CIP Pipeline Projects and Sensitive Habitat Types

Project No.	System	Project Description	Sensitive Habitat	Approximate Impact (Acres)
P2053	Regulatory	PL - 20-in, 944 Zone, Campo Road - 944-1 Pump Station/944 Reservoirs	Diegan Coastal Sage Scrub/ Southern Coast Live Oak Riparian Forest	4.9/ 4.3
P2056	Regulatory	PL - 12-in, 1296 Zone, Jamul Drive Replacement	Diegan Coastal Sage Scrub/ Chaparral/ Southern Coast Live Oak Forest/ Eucalyptus Woodland	1.6/ 0.7/ 0.2/ 1.2
P2058	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Road - Pioneer/Campo (previously 24-in)	Diegan Coastal Sage Scrub/ Southern Mixed Chaparral/ Southern Coast Live Oak Riparian Forest	0.7/ 0.5/ 2.8
P2122	Central	PL - 20-in, 711 Zone, OTC to Hunte Parkway	Coastal Sage/ Chaparral Riparian	
P2171	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Road - Pioneer/Melody (previously 30-in)	Diegan Coastal Sage Scrub/ Cismontane Alkali Marsh	2.3/ < 0.1
P2181	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Road - Proctor Valley PS/Millar Ranch (previously 30-in)	Diegan Coastal Sage Scrub/ Chamise Chaparral/ Valley & Needlegrass Grassland/ Cismontane Alkali Marsh	8.4/ 12.7/ 0.5/ 2.2
P2188	Regulatory	PL - 24-in, 832 Zone, Campo Rd – Steele Canyon/944-1 Pump Station	Diegan Coastal Sage Scrub/ Southern Coast Live Oak Riparian Forest/ Eucalyptus Woodland	< 0.1/ 2.9/ 2.3
P2197	Regulatory	PL - 24-in, 832 Zone, 832-1 Pump Station to 832 Reservoirs	Diegan Coastal Sage Scrub	4.0
P2198	Regulatory	PL - 24-in, 832 Zone, 832 Reservoirs to Fair Oaks Drive	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland/ Southern Coast Live Oak Riparian Forest	2.1/ 0.7/ 3.2
P2203	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Road - Melody (previously 30-in)	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland/ Cismontane Alkali Marsh	8.2/ 2.3/ 0.9
P2204	Regulatory	PL - 20-in, 1296 Zone, Pioneer Way - Proctor Valley/1296 Reservoirs (previously 24-in)	Diegan Coastal Sage Scrub ~~None~~	0.6
P2407	La Presa	Dictionary Hill Fireflow Capacity pipeline Improvements	Coastal Scrub/Chaparral	--
P2430	Central	PL - 20-in in Proctor Valley Road	Diegan Coastal Sage Scrub/ Valley and Foothill Grassland/ Non-native Grassland/ San Diego Mesa Vernal Pool/ Mule Fat Scrub/ Eucalyptus Woodland	1.7/ 11.2/ 2.1/ 2.2/ 0.1/ < 0.1

Table 4.2-8 CIP Pipeline Projects and Sensitive Habitat Types

Project No.	System	Project Description	Sensitive Habitat	Approximate Impact (Acres)
P2435	Central	PL - 20-in, 980 Zone, Proctor Valley Road to Proctor Valley PS	Chamise Chaparral/ Valley & Foothill Grassland/ Non-native Grassland/ Cismontane Alkali Marsh/ Mule Fat Scrub	7.2/ 4.0/ 0.1/ 0.7/ 0.2
P2580	Central	PL - 12-in, 980 Zone, Bob Pletcher Pkwy 125 Freeway Crossing	None	--
P2581	Central	PL - 16-in, 624 Zone, Santa Victoria Road - Olympic/Heritage	Diegan Coastal Sage Scrub ~~None~~	1.5
P2582	Central	PL - 20-in, 711 Zone, Eastlake Pkwy between Olympic and Birch Upsizing	None	--
P2586	Regulatory	PL - 24-in, 832 Zone, Campo Road - Florence Terrace/Steele Cyn	Southern Coast Live Oak Riparian Forest/ Eucalyptus Woodland	0.4/ < 0.1
P2587	Regulatory	PL - 16-in, 1296 Zone, Jefferson Road - Campo/Lyons Valley	Southern Coast Live Oak Riparian Forest	0.7
P2588	Regulatory	PL - 12-in, 1296 Zone, Jamul Highlands Road to Presilla Drive	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland	1.0/ 1.6
P2591	Regulatory	PL - 16-in, 1296 Zone, Proctor Valley to 1296-4 Reservoir	Diegan Coastal Sage Scrub/ Chamise Chaparral	9.8/ 3.5
P2596	Central	PL - 16-in, 624 Zone, Village 3N – Main St, Heritage Rd/Wolf Cyn	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland/ Tamarisk Scrub	4.6/ 1.9/ 1.0
P2597	Central	PL - 16-in, 624 Zone, Main St, Wolf Canyon Bridge	Maritime Succulent Scrub/ Diegan Coastal Sage Scrub/ Valley & Foothill Grassland/ Non-native Grassland	1.1/ 1.9/ 0.5/ 1.1
P2598	Central	PL - 16-in, 624 Zone, Village 8W – Main St, La Media/Village 4	None ~~Coastal Scrub/Chaparral~~	--
P2599	Central	PL - 16-in, 624 Zone, Village 8W – Otay Valley Rd, School/Village 8E	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland	0.7/ 1.3
P2600	Central	PL - 16-in, 624 Zone, Village 8E	Valley & Foothill Grassland	3.1
P2602	Central	PL - 16-in, 624 Zone, Otay Valley Rd, SR 125 Bridge	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland	< 0.1/ 1.5
P2603	Central	PL - 16-in, 711 Zone, Hunte Parkway, SR 125 Bridge	None	--
P2511[2]	La Presa to/from Central	PL – Otay Interconnect (North District - South District Interconnection)	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland/ Southern Riparian Scrub	0.9/ 5.2/ 0.1
P2528	Central	PL – 30-inch, 624 Zone, Manifold between Res 624-1 & 624-2	None	--
Phase IIIB (2023 - 2050) – Projects Required without Assumed New Supply Source(s)				
P2195	Regulatory	PL - 24-in, 640 Zone, Campo Road - Regulatory Site/Millar Ranch	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland/ Coastal & Valley Freshwater Marsh/ Southern Riparian Forest/ Riparian Woodlands	0.1/ 1.7/ 0.2/ 0.9/ 1.0

Table 4.2-8 CIP Pipeline Projects and Sensitive Habitat Types

Project No.	System	Project Description	Sensitive Habitat	Approximate Impact (Acres)
P2196	Regulatory	PL - 24-in, 640 Zone, Millar Ranch Road to 832-1 Pump Station	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland	4.7/ 0.5
P2374	Otay Mesa	PL - 30-in, 870 Zone, 870-2 Reservoir to 870-1 Reservoir	Diegan Coastal Sage Scrub/ Valley & Foothill Grassland/ Non-native Grassland	1.6/ 2.2/ 0.4

Miscellaneous CIP

Similar to the water supply projects described above, the miscellaneous CIP projects involve a variety of project types, including installation of an air and vacuum ventilation system, demolition of an existing reservoir and pump station, meter and vault installations, pipeline crossings, and distribution pipelines, as listed in Table 4.2-9. Construction of miscellaneous CIP projects located within sensitive habitats could result in direct impacts to sensitive biological resources from temporary and permanent vegetation removal. Miscellaneous CIP projects, and sensitive habitats potentially impacted by construction of the projects, are listed in Table 4.2-6. Coastal sage scrub and chaparral are likely to be directly impacted from the implementation of the proposed miscellaneous CIPs. Disturbed or developed areas are not considered sensitive habitats.

Table 4.2-9 Miscellaneous CIP Projects and Sensitive Habitat Types

Project No.	System	Project Description	Sensitive Habitat?	Approximate Impact (Acres)
Phase IIIA (2023 - 2050) – Projects Required Under Baseline Supply Assumptions				
P2575	Regulatory	1485/1296 PRS – Presilla Drive and Jamul Highlands Road	Valley & Foothill Grassland	0.2
~~P2437~~	~~Central~~	~~Dis 624-4 Disinfection Facility~~	~~None~~	
~~P2482~~	~~Otay Mesa~~	~~Otay Mesa Lot 7 Groundwater Well System~~	~~None~~	
~~P2517~~	~~Hillsdale~~	~~Helix - Otay Interconnection, Chase Avenue~~	~~Coastal Scrub/Chaparral~~	

Indirect Impacts

Potential indirect impacts to sensitive species and habitats from construction of CIPs under the 2015 WRMP Update could include impaired water quality, fugitive dust, noise, night lighting, staging areas, and establishment and spread of invasive non-native plant species from graded areas. Potential indirect impacts to sensitive species and habitats from long-term operations at above-ground CIP facilities (i.e., storage reservoirs/tanks and pump stations) under the 2015 WRMP Update could include impaired water quality, noise from pumps, security night lighting, and establishment and spread of invasive non-native plant species from graded areas. Potential impacts from impaired water quality (e.g., erosion/ sedimentation from graded areas, storm water runoff pollution from oil leaks during construction and from paved areas post-construction, etc.) would be reduced to less than significant levels through compliance with the NPDES program and Hazardous Materials Business Plan (HMBP) requirements (refer to Geo-SCP-3 in Section 4.5.3.2 Geology and Hyd-SCP-1 in Section 4.7.3.1 Hydrology of this PEIR). Temporary, construction-related impacts from fugitive dust impacts would be reduced to less than significant levels through implementation of dust control Best Management Practices (BMPs) during construction (refer to Air-SCP-1 in Section 4.1.3.2 Air Quality of this PEIR). Potential impacts due to

establishment and spread of invasive non-native plant species from graded areas into adjacent native vegetation communities would be reduced to less than significant levels through implementation of the measures listed in Bio-SCP-1 above. The remaining indirect impacts related to CIP construction activities and from long-term operations at CIP storage reservoirs/tanks and pump stations are discussed below.

Noise

CIP construction activities would result in temporary increases in noise levels that could disturb sensitive breeding birds and raptors that use adjacent native habitats for nesting and foraging.

For CIP pump stations located adjacent to native vegetation communities that could be used by sensitive breeding birds and raptors, potential impacts due to permanent increases in noise levels from operation of pumps would be reduced to less than significant levels through implementation of Noi-PDF-1 (Section 4.10.3.1 Issue 1 Substantial Permanent Increases in Ambient Noise Levels of the PEIR), which requires the placement of pumps, emergency generators, and any other motorized equipment within a masonry enclosure.

Night Lighting

Night lighting used during nighttime construction of CIPs may alter nocturnal behavior patterns of wildlife that use adjacent native habitats for nesting and foraging. Night lighting could also give nocturnal predators an unnatural advantage over prey species, which could cause an increased loss of native wildlife.

For above-ground CIP facilities (i.e., storage reservoirs/tanks and pump stations) under the 2015 WRMP Update that would be located adjacent to native vegetation communities, potential impacts could occur to nocturnal wildlife from increased predation due to “spill-over” of nighttime light levels into the adjacent habitats from outdoor (security) lighting installed at these facilities. These potential impacts would be reduced to less than significant levels through implementation of Ene-PDF-2 (Section 4.4.3.1 Issue 1 Energy Consumption of the PEIR), which requires such lighting to be of low illumination (i.e., light emitting diodes with motion-sensor lighting controls), shielded, and directed downwards and away from these areas.

Other Construction-Related Impacts

Fueling and maintenance of equipment in construction staging areas could lead to accidental leaks or spills resulting in storm water runoff contamination due to elevated concentrations of hydrocarbons that could enter downstream drainages and wetlands. As stated above, such temporary, construction-related impacts from decreased water quality would be reduced to less than significant levels through compliance with the NPDES program and HMBP requirements (refer to Geo-SCP-3 in Section 4.5.3.2 Geology and Hyd-SCP-1 in Section 4.7.3.1 Hydrology of this PEIR). CIP construction activities could result in inadvertent intrusions of construction equipment and personnel into sensitive habitats adjacent to construction zones.

Mitigation/Performance Measures

Implementation of the following performance measures would reduce direct and indirect impacts to sensitive species and habitats to less than significant levels.

Bio-1A During the design phase, OWD shall retain a qualified biologist to conduct biological surveys as part of the "tiered" CEQA documentation for these projects, following the program described in Section 1.2 (Intended Use and Purpose) of this PEIR.

Bio-1B If the biological surveys identified in performance measure Bio-1A determine the presence of special-status species and/or sensitive or critical habitats on or adjacent to the CIP site, then OWD shall map and quantify the impacts in a Biological Technical Report as part of the "tiered" CEQA documentation referenced in Bio-1A. Detailed project-specific avoidance and mitigation measures for significant impacts to biological resources shall be negotiated between OWD and the regulatory agencies, as part of the approval and certification process for the subsequent CEQA documentation. In addition, the following measures shall be implemented, as applicable:

i. Six (6) weeks prior to vegetation clearing, grading and/or construction activities that are scheduled to occur between February 15 and August 30, a qualified biologist shall commence focused surveys in accordance with USFWS protocols to determine the presence or absence of the California gnatcatcher. Documentation of the survey results shall be provided to OWD and USFWS within 45 days of completing the final survey, as required pursuant to FESA Section 10(a)(1)(A). If the survey results are negative, then no further mitigation for California gnatcatcher is necessary and vegetation clearing can occur at any time in the year following the survey; only mitigation for the habitat loss shall be required (refer to Bio-1B(iv) below). If surveyed habitat is determined to be occupied by California gnatcatcher, then the following measures shall be implemented:

   a. Coastal sage scrub/gnatcatcher habitat shall not be removed during the gnatcatcher breeding season (February 15 through August 30). Work that has commenced prior to the breeding season shall be allowed to continue without interruption. If gnatcatchers move into an area within 500 feet of ongoing construction noise levels and attempt to nest, then it can be deduced that the noise is not great enough to discourage gnatcatcher nesting activities. If work begins prior to the breeding season, the contractor(s) should maintain continuous construction activities adjacent to coastal sage scrub that falls within 500 feet, until the work is completed. However, if clearing, grading and/or construction activities are scheduled to begin *during* the gnatcatcher breeding season, then updated pre-construction surveys are necessary as defined above. In addition, if these activities are initiated prior to, and extend into, the breeding season, but they cease for any period of time and the contractor wishes to restart work within the breeding season window, then updated pre-construction surveys are also necessary. If these surveys indicate no nesting birds occur within the coastal sage scrub that falls within 500 feet of the proposed work, then the adjacent construction activities shall be allowed to commence. However, if the birds are observed nesting within these areas, then the adjacent construction activities shall be postponed until all nesting has ceased.

   b. Noise monitoring shall be conducted if construction activities are scheduled during the gnatcatcher breeding season; if the construction-related noise levels would exceed 60 dB L_{eq} (i.e., the noise threshold suggested by the USFWS for indirect impacts to gnatcatcher); and if gnatcatchers are found within 500 feet of the noise

source. Noise monitoring shall be conducted by a biologist experienced in both the vocalization and appearance of California gnatcatcher, and in the use of noise meters. Construction activities that generate noise levels over 60 dB L_{eq} may be permitted within 300 feet of occupied habitat if methods are employed that reduce the noise levels to below 60 dB L_{eq} at the boundary of occupied habitat (e.g., temporary noise attenuation barriers or use of alternative equipment). During construction activities, daily testing of noise levels shall be conducted by a noise monitor with the help of the biologist to ensure that a noise level of 60 dB L_{eq} at the boundary of occupied habitat is not exceeded. Documentation of the noise monitoring results shall be provided to OWD and USFWS within 45 days of completing the final noise monitoring event.

ii. Ten (10) days prior to vegetation clearing, grading and/or construction activities that are scheduled to occur between February 1 and August 15, surveys for nesting bird species other than the California gnatcatcher, including those protected by the MBTA, shall be conducted by a qualified biologist following applicable USFWS and/or CDFW guidelines. If no active avian nests are identified within the disturbance limits, then no further mitigation is necessary. However, if active nests for avian species of concern are found within the disturbance limits, then ~~species-specific~~ measures prescribed by the MBTA shall be implemented by a qualified biologist; a minimum buffer of 300 feet for passerine and 500 feet for raptor species will be incorporated in order to minimize potential disturbances to nesting birds from construction activities. Documentation of the mitigation measures shall be provided to OWD and USFWS within 10 days after implementation.

iii. Ten (10) days prior to vegetation clearing, grading and/or construction activities that are scheduled to occur during the raptor nesting season (generally January 15 through July 31), and where suitable trees (such as *Eucalyptus* spp.) for raptor nesting occur within 500 feet of such activities, pre-construction surveys for raptor nests shall be performed by a qualified biologist. If no occupied raptor nests are identified in suitable trees on or within 500 feet of the construction site, then no further mitigation is necessary. Construction activities within 500 feet of occupied nests shall not be allowed during the raptor breeding season until a qualified biologist determines that the nests are no longer active. Documentation of the raptor surveys and any follow-up monitoring, as necessary, shall be provided to OWD and USFWS within 10 days of completing the final survey or monitoring event.

iv. For CIPs that would affect non-listed sensitive species and sensitive vegetation communities, the measures listed below shall be implemented prior to vegetation clearing, grading and/or construction activities. In addition, applicable regulatory agency permits and/or authorizations shall be obtained for CIPs that would affect federal and state-listed species, and the conditions of such permits and/or authorizations shall be implemented prior to vegetation clearing, grading and/or construction activities.

    a. Special-status species (and any corresponding USFWS-designated critical habitats), sensitive vegetation communities and MSCP resources shall be avoided through project design or site selection, to the extent practicable.

b. For unavoidable impacts to special-status species (and any corresponding USFWS-designated critical habitats), sensitive vegetation communities and MSCP resources, off-site mitigation shall be provided by one, or a combination of, the following measures, in consultation with the USFWS and CDFW: 1) Debit credits from the San Miguel HMA (Table 4.2-10 shows the status of the mitigation bank credits, as of the date of this Final PEIR); 2) Contribute to the preserve system of other agency MSCPs through land acquisition or purchase of mitigation banking credits; and 3) Enhance, restore, create, and preserve in perpetuity off-site habitat areas at locations and mitigation ratios to be approved by the appropriate regulatory agencies and in compliance with the mitigation ratios, guidelines, and standards required by the applicable MSCP subarea plans. Typical mitigation ratios for direct impacts to sensitive vegetation types include 2:1 for coastal sage scrub; 3:1 for maritime succulent scrub; 3:1 for native grassland; 2:1 for oak woodlands; 3:1 for southern interior cypress forest; 3:1 for riparian woodlands/forests; 3:1 for coastal freshwater marsh; 2:1 for riparian scrubs (absent threatened or endangered species); 5:1 for San Diego mesa claypan vernal pools; 3:1 for Gabbroic chaparrals; and 0.5:1 for non-native grassland (absent threatened or endangered species). These ratios will be decreased or increased depending on whether the impacts and mitigation would occur inside or outside an MSCP preserve area. For example, these ratios are typically doubled if impacts occur within previously conserved lands. Plans for habitat enhancement, restoration and creation shall be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Such plans shall include, at a minimum: (a) location of the mitigation site(s); (b) plant species to be used, container sizes, and seeding rates; (c) schematic depicting the mitigation area(s); (d) planting schedule; (e) description of the irrigation methodology; (f) measures to control exotic vegetation at the mitigation site(s); (g) specific success criteria (e.g., percent cover of native and non-native species, species richness); (h) detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and preserving the mitigation site(s) in perpetuity (including conservation easements and management funding). In addition, OWD shall negotiate and implement long-term maintenance requirements to ensure the success of the mitigation site(s).

c. If federal permits or funding are required for CIPs (and listed species) that occur within USFWS-designated critical habitat, then Section 7 Consultations with the USFWS shall be initiated by the appropriate federal nexus~~permitting agency~~.

Bio-1C Prior to vegetation clearing, grading, and/or construction activities for CIPs that have the potential to impact sensitive vegetation communities or special-status species (and any corresponding USFWS-designated critical habitats), a qualified biologist shall attend a pre-construction meeting to inform construction crews of the sensitive species and habitats within and/or adjacent to these project sites.

Table 4.2-10 San Miguel HMA - Mitigation Bank Transaction Summary

Year	Description	Coastal Sage Scrub	Chamise Chaparral	NNG/Sage Ecotone	Native Grassland	Non-native Grassland	Non-native Woodland	So. Willow Scrub	Tamarisk Scrub	Ponds	Dry Marsh/ Riparian Scrub	Freshwater Marsh	Agri. Field/ Disturbed	Developed	Total
Mitigation Bank Credit Summary															
Initial Values		187.585	0.375	0.743	0.955	17.763	12.483	0.625	2.808	2.664	2.529	0.639	1.425	0.135	230.729
Mitigation Bank Transactions															
1995	CIP #185	(7.630)													(7.630)
1995	CIP #022, 140, 186	(1.930)													(1.930)
1996	CIP #187	(4.300)													(4.300)
1999	CIP #064	(1.460)													(1.460)
1999	CIP #098	(1.150)													(1.150)
1999	CIP W329, W330	(0.160)													(0.160)
2000	CIP W192					(3.580)									(3.580)
2000	CIP #136	(1.770)													(1.770)
2001	Auld Golf Course	(1.000)													(1.000)
2004	CIP P2191 – 850-4 Res	(4.97)													(4.97)
2005	CIPs R001, R004, R022	(0.79)				(4.99)		(0.016)							(5.796)
2006	CIP P2185 640-1 & 640-2 Res	(23.68)													(23.68)
Proposed Credit Transactions															
2008	CIP P2143 1296-3 Res	(1.28)													(1.28)
2009	CIP R2086 – FM/AV	(2.3)		(0.14)	(0.12)										(2.56)
2010	CIP P2009 – Jamacha Rd	(1.9)													(1.9)
2010	CIP P2443 – 1296-3 Res	(1.28)													(1.28)
2011	CIP P2466 – SM Train Fac	(0.366)													(0.366)
2016	**Final Values**	**146.819**	**0.375**	**0.603**	**0.835**	**9.193**	**12.483**	**0.609**	**2.808**	**2.664**	**2.529**	**0.639**	**1.425**	**0.135**	**181.117**

Bio-1D Prior to vegetation clearing, grading, and/or construction activities, a qualified biologist shall oversee installation of appropriate temporary fencing and/or flagging to delineate the limits of construction and the approved construction staging areas for protection of identified sensitive resources outside the approved construction/staging zones: All construction access and circulation shall be limited to designated construction/staging zones. The fencing shall be checked weekly to ensure that fenced construction limits are not exceeded. This fencing shall be removed upon completion of construction activities. Construction staging areas shall be located a minimum of 100 feet from drainages, wetlands and areas supporting sensitive habitats or species. Fueling of equipment shall occur in designated fueling zones within the construction staging areas. All equipment used within the approved construction limits shall be maintained to minimize and control fluid and grease leaks. Provisions to contain and clean up unintentional fuel, oil, fluid and grease leaks/spills shall be in place prior to construction.

Bio-1E During vegetation clearing, grading, and/or construction, a qualified biologist shall monitor these activities: If sensitive species and/or habitats adjacent to these project sites are inadvertently impacted by these activities, then the biologist shall immediately inform the on-site construction supervisor who shall temporarily halt or redirect work away from the area of impact. OWD shall immediately be notified of the impact and shall consult with the appropriate regulatory agencies to determine the required mitigation, according to Bio-1B(iv)(b) and (c) above. The biologist shall also ensure that all construction night lighting adjacent to sensitive habitat areas is of low illumination, shielded, and directed downwards and away from these areas.

Bio-1F Construction equipment will be checked by the biological monitor prior to use each morning to ensure no sensitive wildlife species sheltered in or around any equipment left on site overnight.

Bio-1G Trenches associated with pipe installation will be backfilled with earth at the end of each work day to prevent wildlife access, with the exception of the end of the open pipe, which will be left exposed. During installation, the area surrounding the end segment of exposed open pipe will be sloped at the end of each work day at an angle to allow wildlife to easily escape. Also, the open end of the exposed pipe will be covered at the end of each work day with a material flush with the open pipe entrance such as a wooden board or cap such that no wildlife, including smaller species like lizards, can enter the pipe. Should wildlife become trapped in the vicinity of the open exposed pipe, the qualified biologist(s) will remove and relocate the individual outside the construction zone.

4.2.3.2 Issue 2 – Riparian Habitat and Other Sensitive Natural Communities

Standards of Significance

Based on Appendix G of the CEQA Guidelines, the proposed 2015 WFMP Update would result in a significant impact if it would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.

Impact Analysis

Section 4.2.3.1 (Issue 1 Special Status Plant and Wildlife Species) describes the proposed project's impact to sensitive natural communities. As stated in this section, the proposed project would result in a potentially significant impact to sensitive habitats in the planning area from direct and indirect impacts associated with the 2015 WFMP implementation. Therefore, the following section focuses solely on riparian habitats. Riparian communities occur along rivers, streams, and other drainages in the unincorporated county. According to the Riparian Bird Conservation Plan (CPF 2004), riparian habitats are defined as habitats along the banks or otherwise adjacent to freshwater bodies, watercourses, estuaries, and other surface waters. These areas can be perennial, intermittent, or ephemeral. Riparian areas connect terrestrial and aquatic habitats and provide linkages between water bodies and upstream vegetation communities. The available water provides soil moisture in excess of that typically available in upland habitats.

Implementation of some of the CIPs located in the OWD planning area (refer to Tables 4.2-6, 4.2-7, and 4.2-8 and Figures 4.2-1a - f) would have the potential to result in directs and indirect impacts to riparian habitat and other sensitive natural communities (refer to Section 4.2.3.1).

Mitigation/Performance Measures

Implementation of mitigation measures Bio 1A-~~1E~~ 1G would reduce direct and indirect impacts to riparian habitats and other sensitive natural communities to less than significant levels.

4.2.3.3 Issue 3 – Federally Protected Wetlands

Standards of Significance

Based on Appendix G of the CEQA Guidelines, the proposed 2015 WFMP Update would result in a significant impact if it would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means.

Impact Analysis

Federally protected wetlands are defined in Section 404 of the CWA as areas that are inundated or saturated by surface or ground water 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.

Implementation of some of the CIPs located in the OWD planning area (refer to Tables 4.2-7 and 4.2-8 and Appendix B: Figure B-1) would have the potential to result in directs and indirect impact to federally protected wetlands. These projects would comply with applicable federal regulations such as Section 401 and 404 of the CWA.

Mitigation/Performance Measures

Implementation of mitigation measures Bio 1A-1E would reduce direct and indirect impacts to federally protected wetlands to less than significant levels.

4.2.3.4 Issue 4 – Wildlife Movement Corridors and Nursery Sites

Standards of Significance

Based on Appendix G of the CEQA Guidelines, the 2015 WFMP Update would result in a significant impact if it would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Impact Analysis

Implementation of some of the CIPs located in the OWD planning area (refer to Tables 4.2-7 and 4.2-8 and Figure 4.2-3) would have the potential to temporarily impact wildlife movement corridors. Some of the CIPs are within the San Diego National Wildlife Refuge.

Mitigation/Performance Measures

Implementation of mitigation measures Bio 1A-~~1E~~ 1G would reduce direct and indirect impacts to wildlife movement corridors to less than significant levels.

4.2.4 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2015 WFMP Update

Would implementation of the 2015 WFMP Update conflict with any local policies or ordinances protecting biological resources (Issue 5)?

As discussed in Section 4.9.2.1 (Land Use and Planning) of this PEIR, according to Section 53091 of the California Government Code, zoning ordinances (and by inference the planning policies of local land use agencies) do not apply to the location or construction of facilities used for the production, generation, storage, or transmission of water. Nevertheless, with implementation of performance measures Bio-1A through Bio-1E, the 2015 WFMP Update would not conflict with local policies and ordinances pertaining to the protection of biological resources, such as the County of San Diego HLP Ordinance, City of San Diego Environmentally Sensitive Lands regulations, and the MSCPs for the County of San Diego, City of San Diego and City of Chula Vista. Therefore, no further analysis is required.

Would implementation of the 2015 WFMP Update conflict with any HCPs or NCCPs (Issue 6)?

The 2015 WFMP projects will be designed to comply with all approved local, regional, state, and federal regulations, policies, and ordinances. The OWD is not a participant in the San Diego County MSCP Subregional Plan and is not subject to the provisions of that plan. The Otay subarea plan is not yet developed or approved. Therefore, no conflicts will occur with any approved regional, state, or federal regulations, policy, ordinance, or plan. Figure 4.2-2 presents MSCP areas within and adjacent to the OWD planning area.

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4.3 Cultural Resources

This section of the PEIR for the 2015 WRMP Update describes existing conditions within the planning area with respect to cultural resources; the potential physical environmental effects (direct, indirect, and/or cumulative) related to these issues resulting from development of CIP projects under the 2015 WRMP Update; and the project design features, standard construction practices, and mitigation/ performance measures to reduce or avoid the identified impacts.

4.3.1 Environmental Setting

4.3.1.1 Definition of Resources

CEQA-defined cultural resources include prehistoric resources and historical-period resources. Title 21 Section 21.03 governs the meaning of words used in both Title 21 and the San Diego County General Plan Conservation Element. Prehistoric resources are physical properties resulting from human activities that predate written records and are generally identified as isolated finds or archaeological sites. Prehistoric resources can include village sites, temporary camps, lithic (stone tool) scatters, roasting pits/hearths, milling features, rock features, and burials. Historic resources consist of physical properties, structures, or built items resulting from human activities after the time that written records were kept for a region. In San Diego, the historical-period is generally considered equivalent to the time period since European contact, beginning in A.D. 1542 when Juan Rodriguez Cabrillo first visited the region. Historic resources can include archaeological remains and architectural structures.

4.3.1.2 Cultural Resources Setting

Cultural resources within the planning area range from prehistoric resources dating back to 10,000 years Before Present (B.P.), to more recent historic artifacts associated with early Spanish, Mexican, and European settlers, as described below.

Prehistoric Setting

Early Prehistoric Period (10,000 years B.P.)

Early migrations of people into San Diego County may have come from the north, likely from the region currently known as Santa Barbara. Recent work on the northern Channel Islands off the coast of Santa Barbara demonstrates the presence of people on the islands during the end of the Pleistocene, roughly 11,600 years ago. At this time, the population is thought to have been completely marine-adapted, exploiting shellfish and navigating with seaworthy boats through the Pacific Ocean. Artifacts from the Channel Islands also demonstrate that by 10,000 years B.P., fish were captured using instruments carved from bone. Evidence from this time period is lacking for the adjacent Santa Barbara mainland, a fact that is attributed to inundation by coastal waters. It is thought that post-Pleistocene de-glaciation events inundated coastal regions throughout Santa Barbara and other coastal areas, including San Diego, which during the late Pleistocene/early Holocene periods was two to six kilometers (km) farther seaward than today's coast. Therefore, any evidence for early coastal adaptation in San Diego County synchronous with

that in the Santa Barbara region may have been destroyed within this two to six km paleo-shoreline area by sea encroachment thousands of years ago.

The early prehistoric period of San Diego County is typified by the San Dieguito complex or tradition. Initially believed to be big game hunters, the San Dieguito people are better classified as a hunter-gatherer society. These people had a relatively diverse and non-specialized economy typified by relatively mobile bands of people who accessed and used a wide range of plant, animal, and lithic (stone) resources. Manos and metates found on San Dieguito sites suggest that these people relied on seed and vegetable foods for sustenance. Diagnostic artifacts associated with San Dieguito sites include scraper planes, choppers, scraping tools, crescentics, elongated bifacial knives, and leaf-shaped points (HDR 2004). Debate continues as to whether these people, who occupied both inland and coastal areas, abandoned San Diego County approximately 8,500 years ago (HDR 2004) or remained and adapted by using new tools and cultural activities.

Some researchers have identified sites located in transverse valleys and sheltered canyons and dating to the early prehistoric period as the La Jolla Tradition, although these sites have also been cited as the Pauma Complex (HDR 2004). Alternatively, others have identified these sites as belonging to the same cultural group. The latter identification relies on a hypothesis that views the Early Period (from 10,000 years B.P. to 1,300 years B.P) as a settlement by only one cultural group. It is thought that only one group was present during this period because artifacts demonstrate discrete modifications in relation to previous artifacts, presumably as a response to environmental changes and sustenance demands during that time. Such cultural sites, which demonstrate a generally sedentary occupation, have been defined as having a predominance of grinding implements (manos and metates), no shellfish remains, and notable tool variety, with an emphasis on both gathering and hunting (HDR 2004).

The Early Prehistoric Period was not environmentally stable, a fact that is demonstrated by the way in which timing of siltation events and the abundance of lagoon resources (i.e., shellfish and fish) coincide with evidence of occupation near coastal resources. Radiocarbon evidence from sites adjacent to coastal lagoons throughout San Diego indicate that large populations were supported by lagoon resources approximately 6,000 years B.P. These sites do not appear to have been occupied between 3,000 years B.P. to approximately 1,300 years B.P. This absence of prehistoric occupation coincides with siltation in coastal lagoons and depletion of resources that are known to also have occurred during that time period (HDR 2004).

Late Prehistoric (1,500 B.P. to 200 B.P.)

By 2,000 years B.P., Yuman speaking people occupied the Gila and Colorado River drainage areas in eastern San Diego County (HDR 2004). These people were thought to occupy the San Diego coast during their pre-ceramic phase approximately 2,000 years B.P., with ceramics being introduced into San Diego County from the eastern deserts approximately 1,200 B.P. Yuman cultural traits may have been present in San Diego County before 2,000 years B.P.; however, Yuman influence is well documented after 1,200 years B.P. with the presence of small projectile points, pottery, Obsidian Butte obsidian, and cremation of the dead. The relationship between Early Prehistoric Period occupants and Yuman, specifically the Kumeyaay and Diegueño complexes is not well understood. The early occupants of San Diego County may have been assimilated by Yuman speakers or they may have been displaced (HDR 2004).

Historic Setting

Regional

The following presents a brief background of San Diego history. The purpose of this is to provide background information with regards to the presence, chronological significance, and historical relationship of cultural resources within the planning area. Due to San Diego's historical ties with Spain and Mexico, the history of the region is best described in relation to its historical political interactions with these two countries.

The Spanish Period (1769-1821) is typified by exploration. During this period the San Diego presidio and the San Diego and San Luis Rey missions were established; horses, cattle, and agricultural goods were introduced to the region; and a new method of building construction and architectural style became prevalent. Although this period is considered to have ended in 1821 (when California became a part of Mexico), Spanish influence occurred after this year because the missions continued to operate as they had in the past and laws governing the distribution of land were also retained for a period of time.

The Mexican Period (1821-1848) can be defined as a transitional period, which involved the continuation of Spanish laws and practices until shortly before the San Diego Mission was secularized in 1834. In 1834, San Diego was officially recognized by the Mexican government as a municipality, known as the Pueblo of San Diego. During this time the Pueblo of San Diego expanded roads and held large amounts of pueblo (public) lands. After 1834, Mexico began creating ranchos throughout California via land grants. During this period in California, agricultural activities were focused on cattle ranching which greatly increased the trade of hides and tallow. The Mexican Period ended as a result of the Mexican-American War.

The American Period (1848-Present) is officially marked by the Treaty of Guadalupe Hidalgo (Treaty), during which Mexico ceded the land now known as California to the U.S. in 1848. Following American rule and land dispute issues, the Lands Commission was created under the Act of 1851 to validate land ownership claims and settle ownership disputes. Under the Lands Commission and American rule, it was difficult for Mexican landowners to prove ownership, and many Mexican ranchos were sold and the land was divided. The majority of this divided land was settled by people immigrating to California. After discovery of gold, the cessation of the Civil War, and the passage of the Homestead Act (which made large amounts of land available in California), immigration to California increased greatly, including people immigrating to the San Diego region. Economic instability in the late 1800s, also known as the "boom and bust," caused fluctuations in populations throughout California and especially in San Diego during this time.

Local

There are several communities located within the planning area, including Chula Vista, San Ysidro, Otay, and others. Many of these communities have historic associations with ranchos, and specifically the planning area has a direction connection with three ranchos (Proctor Valley, Otay Ranch, and National Ranch). The following provides a brief history of these three ranchos, and then explains a more current history of the communities associated with the planning area.

Ranchos

In 1829, Governor Echeandia of Mexico granted the 4,436-acre Janal Rancho (now known as Proctor Valley) to Don Jose Antonio Estudillo, and granted the 6,657-acre Otay Rancho to Dona Magdalena

Estudillo (HDR 2004). The Estudillo family retained their ranchos even after American occupation because they were able to prove ownership to the Lands Commission and obtain patents for the land. While the Otay Rancho (Otay Ranch) remained relatively intact, the Janal Rancho changed greatly over the years in terms of boundaries and land uses. Portions of Janal Rancho became part of the Otay Ranch and, in later years, the western portion became known as the Fenton Ranch. While the full details of ownership are unknown, by 1913 the Estudillos no longer owned the Otay Rancho, because the land was held as a larger (7,072-acre) holding by the San Diego Land Company. Similarly, a topographic map from the U.S. Geologic Services (USGS) dating to 1903 shows the eastern portion of the Janal Rancho demolished by development of the Otay Reservoir.

National Ranch was granted to John Forster in 1845, but was later owned by the Kimball brothers. The Kimball brothers subdivided the land to build homes and small farms, and this rancho later became land now known as National City and Chula Vista.

During the Mexican Period and the beginning of the American Period, agricultural activities at the ranchos were conducted communally. Agricultural production constituted the economic base for each of the ranchos, and the majority of their earnings came from cattle ranching. However, in the late 1800s the ranchos began producing crops such as barley and wheat. Much later, in the late 1930s, lima beans were grown on the ranchos, particularly on Rancho Janal. While agricultural production was the mainstay of the ranchos, a parcel of land to the east of Otay Ranch and directly south of Lower Otay Reservoir has been used for water production and associated with the reservoir since the 1800s. Construction of the Lower Otay Dam was completed in 1897, serving the South Bay communities until its destruction as a result of the flood of 1916 (Pryde 1976). The City of San Diego rebuilt the reservoir in 1919.

Communities

Otay Valley (the Valley) should be distinguished from Otay Mesa, which was referred to as the Big Mesa in past times. While these areas are geographically distinguishable, people from both areas historically connected for social purposes and for utilization and trade of agricultural goods. The exact settlement of this area is unknown. An excerpt from the *San Diego Union* from February 24, 1891 states that settlement began in 1889, while in 1890 the National City Record noted that an Italian Colony had existed in the area since 1879. Despite these discrepancies, it is clear from both of these historic resources that agricultural production, namely orchard crops, played a large role in the local economy in this area during the late 1800s.

Chula Vista was initially developed in 1888 by the Kimball brothers, who owned the San Diego Land and Town Company. However, it did not become an incorporated city until 1911. When Chula Vista did become an incorporated city, the area was well known for lemon production, in fact it became known as "the largest lemon growing center in the world" (HDR 2004). Land uses in Chula Vista were primarily agricultural until the 1970s, when industrial and manufacturing uses became prevalent. Other than lemon production, prior to the 1970s, Chula Vista was known for having a kelp harvesting plant, and for sand and gravel distribution from Otay Valley. Placement of the Rohr Aircraft Company in Chula Vista in the early 1900s was another important employment center, which also helped to bring other businesses to town (HDR 2004). Following the shift from agricultural production, Chula Vista became a booming town with high residential growth, mainly in the eastern part of the city (City of Chula Vista 2008).

4.3.2 Regulatory Framework

The treatment of cultural resources is governed by federal and California laws and guidelines. There are specific criteria for determining whether prehistoric and historic sites or objects are significant and/or protected by law. Federal and state significance criteria generally focus on the resource's integrity and uniqueness, its relationship to similar resources, and its potential to contribute important information to scholarly research. Some resources that do not meet federal significance criteria may be considered significant under state criteria. The laws and regulations seek to mitigate impacts to significant prehistoric or historic resources. The federal and state laws and guidelines for protecting cultural resources are summarized below.

4.3.2.1 Federal

National Historic Preservation Act (NHPA) of 1966

The National Historic Preservation Act (NHPA) of 1966 established the framework that focused local, state, and national efforts with regards to the preservation of historic and archaeological resources. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by ACHP (36 CFR Part 800). The Section 106 process involves efforts to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. In order to help identify these historic properties and provide community involvement, consulting parties are identified through coordination with the appropriate State Historic Preservation Officer and/or Tribal Historic Preservation Officer.

National Register of Historic Places

The NHPA established the National Register of Historic Places (NRHP) as the official federal list of cultural resources that have been nominated by state offices for their historical significance at the local, state, or national level. Listing on the NRHP provides recognition that a property is significant to the nation, the state, or the community and assumes that federal agencies consider historic values in the planning for federal and federally assisted projects. Properties listed in the NRHP, or "determined eligible" for listing, must meet certain criteria for historical significance and possess integrity of form, location, and setting. Structures and features must usually be at least 45 years old to be considered for listing on the NRHP, barring exceptional circumstances. Criteria for listing on the NRHP, which are set forth in 36 CFR Part 63, include: significance in American history, architecture, archaeology, engineering, and culture as present in districts, sites, buildings, structures; and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association; and that are:

- Associated with events that have made a significant contribution to the broad patterns of our history;
- Associated with the lives of persons significant in our past;

- Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values, represent a significant and distinguishable entity whose components may lack individual distinction; or
- Have yielded, or may be likely to yield, information important in prehistory or history.

Eligible properties must meet at least one of these criteria and exhibit integrity, measured by the degree to which the resource retains its historical properties and conveys its historical character, the degree to which the original fabric has been retained, and the reversibility of changes to the property. These criteria have largely been incorporated into Section 15064.5 of the CEQA Guidelines (also refer to Section 4.5.3 below).

Federal Native American Graves Protection and Repatriation Act (NAGPRA)

Passed in 1990, the federal NAGPRA provides a process for museums and federal agencies to return certain Native American cultural items - human remains, funerary objects, sacred objects, or objects of cultural patrimony - to lineal descendants, and culturally affiliated Indian tribes and Native Hawaiian organizations. NAGPRA includes provisions for unclaimed and culturally unidentifiable Native American cultural items, intentional and inadvertent discovery of Native American cultural items on federal and tribal lands, and penalties for noncompliance and illegal trafficking.

Federal curation regulations are also provided in 36 CFR Part 79 which apply to collections that are excavated or removed under the authority of the Antiquities Act (16 U.S.C. 431-433), the Reservoir Salvage Act (16 U.S.C. 469-469c), Section 110 of the NHPA (16 U.S.C. 470h-2), or the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm). Such collections generally include those that are the result of a prehistoric or historic resources survey, excavation or other study conducted in connection with a federal action, assistance, license or permit.

4.3.2.2 State

California NAGPRA

The California NAGPRA, 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. California NAGPRA also provides a process for the identification and repatriation of these items to the appropriate tribes.

California Health and Safety Code Sections 7050.5, 7051, and 7054

These sections collectively address the illegality of interference with human burial remains, as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures. Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98 (refer to second paragraph below).

The County Coroner must be notified of the find immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendent (MLD). The MLD shall complete the inspection of the site within 24 hours of notification, and may recommend scientific removal and non-destructive analysis of human remains and items associated with Native American burials.

California Register of Historic Resources (PRC Section 5020 et seq.)

The State Historic Preservation Office (SHPO) maintains the California Register of Historic Resources (CRHR). 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 historical resource surveys.

State law seeks to protect cultural resources by requiring evaluations of the significance of prehistoric and historical resources in CEQA documents. An important historical resource is one that meets any of the criteria in Section 15064.5(a)(3) of the CEQA Guidelines, which are nearly identical to those for the NRHP, and are listed in Section 4.5.3 below. CEQA Section 15064.5(a)(4) also affords the Lead Agency the ability to determine whether a resource may be considered historical without it being listed in the CRHR. An archaeological deposit that has been extensively disturbed, or archaeological artifacts found in isolation, may not be eligible for listing on the CRHR because the lack of stratigraphic context may impair the ability of the resource to yield significant data.

California Native American Historic Cultural Sites (PRC Section 5097 et seq.)

State law 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 Resource Protection Act makes it a misdemeanor punishable by up to a year in jail to deface or destroy an historic or cultural site that is listed or may be eligible for listing in the CRHR.

California PRC Section 21083.2(g)

“Unique archaeological resource” means an 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:

- Contains information needed to answer important scientific research questions, and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

California PRC Section 21083.2(h)

"Non-unique archaeological resource" means an archaeological artifact, object, or site which does not meet the criteria in subdivision (g) above. A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the Lead Agency if it so elects.

Assembly Bill 52

Effective on July 1, 2015, Assembly Bill 52 (AB 52) adds tribal cultural resources as an issue under the Cultural Resources CEQA environmental topic, which was previously limited to historic, archaeological, and paleontological resources. Tribal cultural resources are defined as either:

1. Sites, features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe that are included in the state register of resources or a local register of historical resources or that are determined to be eligible for inclusion in the state register; or
2. Resources determined by the lead agency, in its discretion, to be significant based on the criteria for listing in the state register.

Further, recognizing that tribes may have expertise with regard to their tribal history and practices, AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe requests consultation within 30 upon receipt of the notice, the lead agency must consult the tribe. Consultation as defined under AB 52 includes, but is not limited to, discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe. Parties must consult in good faith and consultation is deemed concluded when either the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resources (if such a significant effect exists) or when a party concludes that mutual agreement cannot be reached. Further, under AB 52, mitigation measures agreed upon during consultation must be recommended for inclusion in the environmental document and, if no formal agreement on the appropriate mitigation has been established, mitigation measure that avoid significant impacts that have been identified in AB 52 should be implemented.

4.3.2.3 Local

San Diego County Resource Protection Ordinance (RPO)

The County RPO requires that cultural resources be evaluated as part of the County's discretionary environmental review process and if any resources are determined significant under RPO, they must be preserved. The County RPO prohibits development, trenching, grading, clearing, and grubbing, or any other activity or use that may result in damage to significant prehistoric or historic site lands, except for scientific investigations with an approved research design prepared by an archaeologist certified by the Society of Professional Archaeologists. The County RPO limits the alteration of significant prehistoric and historic site lands without prior approved research design by a certified archaeologist. Sites determined to be highly significant must be preserved. Local historic records are managed at the South Coastal Information Center (SCIC) at San Diego State University (SDSU), and at the San Diego Museum of Man.

San Diego County Zoning Ordinance

The County Zoning Ordinance provides for the designation and regulation of "special areas." One type of special zoning area is a County Historic/Archaeological Landmark District. These resources may be assigned an "H" designator for historic areas or a specific district designator (e.g., Julian has a "J" designator). The purpose of these provisions is to identify, preserve, and protect the historic, cultural, archaeological and/ or architectural resource values of designated landmarks and districts. Zoning regulations for these resources are designed to preserve their integrity and content.

San Diego County Local Register of Historical Resources

The purpose of the County Local Register of Historical Places (adopted 2002) is to develop and maintain "an authoritative guide to be used by state agencies, private groups, and citizens to identify the County's historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Sites, places, or objects that are eligible to the NRHP or the CRHR are automatically included in the County Local Register of Historical Places.

San Diego County Historic Site~~s~~ Board

The function of the County Historic Site~~s~~ Board (advisory body) is to provide decision makers with input regarding archaeological and historic cultural resources. The Historic Site~~s~~ Board is responsible for reviewing resources seeking participation in the Mills Act and projects with significant cultural resources.

City of Chula Vista Historic Preservation Program (HPP)

The purpose of the City of Chula Vista Historic Preservation Program (developed in 2011) is to provide historic preservation ordinance, standards and guidelines of preservation, and outlined identification and preservation process of Chula Vista's historical resources.

4.3.3 Project Impacts and Mitigation

4.3.3.1 Issue 1 – Historical Resources

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following PDFs to reduce potential impacts to potential historical resources:

Cul-PDF-1 Approximately six months prior to demolition of P2584 (Reservoirs 657-1 and 657-2), OWD will retain a qualified architectural historian to conduct a historical building assessment. The architectural historian will record, on a California Department of Parks and Recreation (DPR) 523 form, or equivalent documentation, the potential historical resources, if any, that would be affected by this CIP project. The forms will be filed with the SCIC to receive Primary numbers and Trinomials. Should the analysis involved in completing the DPR 523 form indicate that a particular structure does not meet the eligibility criteria for listing on the California Register of Historic Places, then no further research and documentation is necessary (a 6-week to 2-month process). If, however, the structure is determined to be a historical resource, then measure Cul-PDF-2 will be

implemented. OWD will provide a copy of the historical building assessment and DPR 523 form to the San Diego County Archaeological Society (SDCAS).

Cul-PDF-2 For each structure determined to be a historical resource according to measure Cul-PDF-1, the architectural historian will oversee the following documentation and treatment program:

i. Prior to alteration, remodeling, renovation, relocation, and/or demolition of the historical resource, the architectural historian will document the structure, and associated landscaping and setting, via still and video photography (to be provided on a CD-ROM) and will prepare a written record in accordance with the standards of the Historic American Building Survey (HABS) or Historic American Engineering Record (HAER), including accurate scaled mapping, architectural descriptions, and scaled architectural plans (if available). The record will be accompanied by a report containing site-specific history and appropriate contextual information. This information will be gathered through site-specific and comparative archival research, and oral history collection as appropriate.

ii. For historical resources that will be demolished, additional mitigation beyond HABS/HAER documentation may be necessary. The extent of mitigation will depend upon the importance of the historical resources to be demolished and will be determined in consultation with the State Office of Historic Preservation. Mitigation may include, but not be limited to, the preparation/dissemination of an informational brochure, interpretive displays about the history of the area, and website development and links to other historical buildings.

iii. Within three months after completion of documentation and treatment of the affected historical resources, a copy of the photographic and written record and HABS/HAER report will be submitted to SCIC.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if it would cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5(a)(3). Under these provisions, a Lead Agency shall find that a historical resource is significant if it meets one or more of the criteria for listing on the CRHR, which extends to any building, structure, feature, or site that:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important to local, California, or national history;
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; or
4. Has yielded, or may be likely to yield, information important in the prehistory or history of the local area, California, or the nation.

As stated in Section 4.3.2.1 above (under the discussion of the federal NHPA), with few exceptions, for a structure or building to qualify as a historical resource it must be at least 45 years old and retain physical integrity relevant to its period of significance. A resource that does not meet any of the criteria for eligibility to the CRHR is not a historical resource under CEQA, and impacts to such a resource are not significant.

Impact Analysis

The buildings that would be demolished under the 2015 WFMP Update would include two reservoirs on one site P2584 (Reservoirs 657-1 and 657-2), a chlorine disinfection facility on the site of P2228 (Res 870-2). The chlorine disinfection facility was built in 1993 at the time of construction of Res 870-1, and therefore would not qualify as an historical resource. PS 657-1 and PS 657-2 are both more than 45 years of age, being built in 1957 and 1959, respectively. As these buildings are of the age to potentially be considered historical resources, an assessment would be conducted by a qualified architectural historian prior to their demolition and if they are determined to be potentially historic, then HABS/HAER documentation and additional mitigation measures would be implemented, as necessary. Therefore, implementation of Cul-PDF-1 and Cul-PDF-2 would reduce any impacts to potential historical resources associated with the demolition of P2584 (Reservoirs 657-1 and 657-2) under the 2015 WFMP Update to a less than significant level.

Mitigation/Performance Measures

If one or both of the existing reservoir structures associated with P2584 (Reservoirs 657-1 and 657-2) demolition project are determined to be historical structures according to Cul-PDF-1, then implementation of Cul-PDF-2 would reduce impacts to these potential historical resources to a less than significant level; therefore, no further mitigation is required.

4.3.3.2 Issue 2 – Archaeological Resources

Project Design Features/Standard Construction Practices

There are no PDFs or SCPs identified to reduce potential impacts to archaeological resources.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if it would cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5. Archaeological resources include resources that the Lead Agency determines meet at least one of the criteria listed in PRC Section 21082.2(g) (refer to Section 4.3.2.2 above). An archaeological artifact, object, or site that does not meet any of these criteria is a non-unique archaeological resource, and any impact on such resource is not considered significant pursuant to CEQA Guidelines Section 15064.5(c)(4).

Impact Analysis

For the CIP pipeline projects, impacts to potential archaeological resources would only occur for those projects that would involve excavation into native soils below the level of roadway fill materials. Some pipeline projects may only require excavation into roadway fill material which would not disturb potential

archaeological resources; however, the depth of fill along the CIP pipeline routes is unknown at this time. In the absence of such data, it must be assumed that grading and excavation activities associated with all of the CIP pipeline projects could have significant impacts to potential archaeological resources.

With the exception of P2233 (Res 640-3) ground-disturbing activities (e.g., grading, trenching, excavation) and equipment/material staging areas associated with the construction of CIP reservoirs under the 2015 WFMP Update would have the potential to damage or destroy archaeological resources that may be present on or below the ground surface, particularly in areas that have not been previously developed. According to a previous cultural resources investigation (Kyle Consulting 2004), as part of a Mitigated Negative Declaration (MND) for these facilities (HDR 2006), of the 10-acre parcel in which Res 640-3 would be located, no cultural resources were identified by the literature review or record search. As such, no further research regarding cultural resources at this site was recommended in the referenced MND. Additionally, only ground-disturbing activities associated with the following CIP projects in reservoirs, pump stations, and groundwater wells could have significant impacts to potential archaeological resources: P2040 (Res-1655-1), P2393 (pump station), P2579 (pump station), P2174 (pump station 1090-1), P2400 (pipeline), P2403 (pipeline), P2405 (pipeline), P2451 (desalination conveyance and disinfection system), P2516 (pipeline), P2553 (replacement and utility relocation), R2129 (recycled water pipeline and engine driven pump addition), R2130 (recycled water pipeline and pump station addition), R2080 (recycled water pipeline), R2082 (recycled water pipeline), R2083 (recycled water pipeline), R2085 (recycled water pipeline), R2128 (recycled water pipeline), R2037 (recycled water pipeline), R2038 (recycled water pipeline), R2042 (recycled water pipeline), R2043 (recycled water pipeline), R2079 (recycled water pipeline), R2126 (recycled water pipeline), R2131 (reservoir 680-2), R2132 (recycled water pipeline), R2133 (recycled water pipeline), R2134 (recycled water pipeline), R2135 (recycled water pipeline), R2136 (recycled water pipeline), and R2137 (recycled water pipeline).

Mitigation/Performance Measures

Implementation of the following measures would reduce impacts to potential archaeological resources to a less than significant level. These are considered both mitigation and performance measures since the same measures are required for both the near-term and long-term projects.

Cul-2A Prior to initiation of any CIP project work, a review of records search data, a search of the Native American Heritage Commission's Sacred Lands Files, and an appropriate-level field survey shall be conducted by a qualified archaeologist to determine if any unrecorded archaeological sites are present. If archaeological resources are found, if feasible, the preferred course of action is that that archaeological resources be preserved in-situ. When avoidance of impacts is not possible, site evaluations and possible data recovery mitigation, as needed, shall be required for all resources. Any artifacts recovered during excavation, other than cultural material subject to repatriation, shall be curated with its associated records at a curation facility approved by OWD and a qualified archaeologist. Excavation of deposits shall be coordinated with and monitored by local Native American representatives. The results of the field survey shall be presented in an Archaeological Resources Management – formatted report and a copy of the report with all associated Department of Parks and Recreation site recordation forms be submitted to the South Coastal Information Center within one month of report finalization.

Cul-2B During the design phase, available data shall be reviewed by a qualified archaeologist on the depth of fill below existing roads in which pipelines would be installed. If such review indicates that native soils would not be disturbed by pipeline trenching activities, then cultural resources monitoring will not be required for those CIP projects, and this determination by a qualified archaeologist shall be documented by OWD in accordance with CEQA requirements. OWD will provide a copy of this CEQA documentation to the SDCAS. If it is determined that native soils would be disturbed by project activities, then a cultural resources monitoring program shall be implemented in accordance with measures Cul-2C through Cul-2D.

Cul-2C Prior to grading of CIP projects, OWD shall retain a qualified archaeologist to monitor all ground-disturbing activities in coordination with a Native American monitor (as applicable). Prior to beginning any work that requires cultural resources monitoring:

i. A preconstruction meeting shall be held that includes the archaeologist, construction supervisor and/or grading contractor, and other appropriate personnel to go over the cultural resources monitoring program.

ii. The archaeologist shall (at that meeting or subsequently) submit to the OWD a copy of the site/grading plan that identifies areas to be monitored.

iii. The archaeologist shall coordinate with the construction supervisor and OWD on the construction schedule to identify when and where monitoring is to begin, including the start date for monitoring.

iv. The archaeologist shall be present during grading/excavation and shall document such activity on a standardized form. A record of monitoring activity shall be submitted to OWD each month and at the end of monitoring.

Cul-2D In the event archaeological resources are discovered during ground-disturbing activities, the on-site construction supervisor shall be notified and shall redirect work away from the location of the discovery to allow for preliminary evaluation of potentially significant archaeological resources. The OWD shall consult with the archaeologist to consider means of avoiding or reducing ground disturbance within the archaeological site boundaries, including minor modifications of project footprints, placement of protective fill, establishment of a preservation easement, or other means. If development cannot avoid ground disturbance within the archaeological site boundaries, then OWD shall implement the measures listed below. The construction supervisor shall be notified by the archaeologist when the discovered resources have been collected and removed from the site, at which time the construction supervisor shall direct work to continue in the location of the discovery.

i. Prepare a research design, resource evaluation plan and, if necessary, an archaeological data recovery plan that will capture those categories of data for which the site is significant. The significance of the discovered resources shall be determined in consultation with the Native American representative, as appropriate. All archaeological work shall be conducted in the presence of a Native American monitor.

ii. If, in the opinion of the qualified archaeologist and in light of the data available, the significance of the site is such that data recovery cannot capture the values that qualify the site for inclusion in the CRHR, then OWD shall reconsider project plans in light of the high value of the resource, and implement more substantial project modifications that would allow the site to be preserved intact, such as redesign, placement of fill, or relocation or abandonment.

iii. Perform appropriate technical analyses, prepare a report and file it with the SCIC, and provide for the permanent curation of recovered resources, as follows:

   a. The archaeologist shall ensure that all significant cultural resources collected are cleaned, catalogued, and analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; that specialty studies are completed, as appropriate; and that a letter of acceptance from the curation institution has been submitted to OWD.

   b. Curation of artifacts shall be completed in consultation with the Native American representative, as applicable.

4.3.3.3 Issue 3 – Human Remains

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCP to reduce potential impacts to human remains:

Cul-SCP-1 The OWD will implement the provisions of California Health and Safety Code Section 7050.5 and PRC Section 5097.98 which establish procedures to be followed if Native American or other skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if it would disturb any human remains, including those interred outside of formal cemeteries. Section 15064.5(d) and (e) of the CEQA Guidelines assigns special importance to human remains and specifies certain procedures when Native American remains are discovered. These procedures are detailed under PRC Section 5097.98 (refer to Section 4.3.2.2 above).

Impact Analysis

Although unlikely, Native American human remains could be discovered during ground disturbance (e.g., grading, trenching, excavation) associated with construction of CIP projects under the 2015 WFMP Update, with the exception of P2233 (Res 640-3) (refer to Section 4.3.3.2 above for the rationale). If human remains are encountered, then these finds would be addressed in accordance with California Health and Safety Code Section 7050.5 and PRC Section 5097.98 which require the County Coroner be notified immediately to determine the origin and disposition of the remains. If the human remains are determined to be prehistoric, the Coroner would notify the NAHC and MLD who would complete the

inspection within 48 hours and confer with OWD over reasonable options for treatment. Therefore, implementation of Cul-SCP-1 would reduce potential impacts to Native American human remains encountered during ground disturbance associated with construction of certain CIP projects under the 2015 WFMP Update to a less than significant level.

Mitigation/Performance Measures

Implementation of Cul-SCP-1 would reduce potential impacts to Native American human remains encountered during ground disturbance associated with construction of certain CIP projects under the 2015 WFMP Update to a less than significant level; therefore, no mitigation is required.

4.3.4 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2015 WFMP Update

All CEQA checklist items related to cultural resources have been thoroughly discussed in this section of the PEIR; no topics were left unaddressed.

4.3.5 References

Atkins. 2016. Draft 2015 Otay Water District Water Facilities Master Plan Update. May.

City of Chula Vista. 2008. Brief History of Chula Vista. Accessed December 3, 2008 at www.chulavistaca.gov/about/history.asp

HDR. 2004. Final Program Environmental Impact Report for the Water Resources Master Plan. June 2004.

HDR. 2006. Mitigated Negative Declaration for the 640-1 & 640-2 Reservoirs, Otay Water District, Spring Valley, California. February 2006.

PBS&J. 2008. Otay Water District Water Resources Master Plan Update. October 2008.

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4.4 Energy

This section of the PEIR for the 2015 WRMP Update describes existing conditions within the planning area with respect to energy; the potential energy use, efficiency, or lack thereof resulting from development of CIP projects under the 2015 WRMP Update; and the project design features, standard construction practices, and mitigation/performance measures to reduce or avoid the identified impacts. Energy usage by the construction and operation of CIP projects is also a consideration in assessing project impacts to global climate change. For further discussion of this issue, please refer to Section 4.6 (Global Climate Change) in this PEIR.

4.4.1 Environmental Setting

4.4.1.1 Existing Conditions

In 2008, a Carbon Footprint Assessment was prepared for the OWD, which provided a summary of data from existing OWD facilities of average energy usage (IFC 2008). Electrical usage data at OWD facilities was obtained from meter readings covering all electricity purchased from San Diego Gas & Electric (SDG&E) and consumed within the OWD for the years of 2006 and 2007. Total annual electricity consumption for OWD was 19,905,675 kilowatt-hours per year in 2006 and 22,859,609 kilowatt-hours per year in 2007 (IFC 2008). The primary source of electricity consumption in the OWD is the operation of pump stations. The average monthly electricity consumption of existing OWD pump stations is presented in Table 4.4-1, below. The pump stations below vary both in size (firm capacity) and frequency of use. Some pump stations are in operation more than others, depending on its location, the distance to the customer base, and the overall demand of the local customer base. For example, a larger sized pump station such as PS 980-1, may result in a lower average monthly electricity usage than a smaller pump station (PS 850-2).

Table 4.4-1 Average Monthly Electricity Consumption of Existing OWD Pump Stations

Existing Pump Stations	Firm Capacity (gpm)	Average Monthly Electricity Consumption (kWh)
PS 1090-1	280	1,696
PS 1655	620	3,657
PS 1485-1	860	11,936
PS 1200-1	1,000	10,595
PS 1004-2	1,000	15,330
PS 1296-1	3,300	58,258
PS 944-1	3,540	31,250
PS 832-1	5,200	82,431
PS 850-2	6,000	157,954
PS 980-1	8,000	96,386
PS 803-1	10,400	178,985

gpm = gallons per minute, kWh = kilowatt hours
Source: ICF 2008

4.4.1.2 Existing Energy Setting

SDG&E services the project area, and is a regulated public utility company that provides energy service to 3.4 million people through 1.4 million electric meters and 870,000 natural gas meters in San Diego and southern Orange counties (SDG&E 2015). The majority of the proposed pipeline alignment is currently undeveloped. However, several detention facilities are located surrounding the northern terminus of the project site and are currently provided energy service by SDG&E. Additionally, the Otay Mesa Energy Center is located approximately 650 feet north of the proposed alignments in Paseo de la Fuente. The Otay Mesa Energy Center is natural gas fueled power plant that provides SDG&E electricity. The plant has a base load of 503 megawatts (MW) (Calpine 2015).

4.4.2 Regulatory Framework

4.4.2.1 Federal

There are no applicable federal regulations concerning energy consumption or operating parameters applicable to the project.

4.4.2.2 State

California Energy Plan

The California Energy Commission (CEC) is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the fewest environmental and energy costs. To further this policy, the plan identifies a number of strategies, including providing assistance to public agencies and fleet operators, encouraging urban designs that reduce vehicle miles traveled, and accommodating pedestrian and bicycle access.

Executive Order S-13-08

On November 14, 2008, Governor Arnold Schwarzenegger issued Executive Order S-13-08, the Climate Adaptation and Sea Level Rise Planning Directive, which provides clear direction for how the state should plan for future climate impacts. S-13-08 calls for the implementation of a number of actions to reduce the vulnerability of California to climate change:

1) Initiate California's first statewide Climate Change Adaptation Strategy (CAS) that will assess the state's expected climate change impacts, identify where California is most vulnerable and recommend climate adaptation policies;
2) Request the National Academy of Science establish an expert panel to report on sea level rise impacts in California in order to inform state planning and development efforts;
3) Issue interim guidance to state agencies for how to plan for sea level rise in designated coastal and floodplain areas for new and existing projects; and
4) Initiate studies on critical infrastructure projects, and land use policies vulnerable to sea level rise.

The CAS is currently being developed by the California Resources Agency, in coordination with the California EPA; the California Climate Action Team; the Business, Transportation and Housing Agency; California Department of Public Health; and other key stakeholders. The CAS will synthesize the most up-to-date information on expected climate change impacts to California for policy-makers and resource managers, provide strategies to promote resiliency to these impacts, and develop implementation plans for short and long term actions (California Climate Change Portal 2009). The public review draft CAS was released on August 3, 2009 and a progress report was published in 2010.

California Code of Regulations Title 24

Energy Conservation Standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission in June 1977 and most recently revised in 2013 (24 CCR 6). Title 24 requires that building shells and building components be designed to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. This program has been partially responsible for keeping California's per capita energy use approximately constant over the past 30 years.

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24) was adopted as part of the California Building Standards Code (24 CCR). Part 11 establishes voluntary standards that became mandatory in the 2010 edition of the code, including planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.

4.4.2.3 Local

The County of San Diego has implemented an Energy Management Program; however, the program is related to municipal facilities and is not applicable to the project.

4.4.3 Project Impacts and Mitigation

4.4.3.1 Issue 1 – Energy Consumption

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following PDFs to reduce potential impacts to energy consumption.

Ene-PDF-1 CIP projects featuring electric pumps and motors will use high efficiency pumps and motors.

Ene-PDF-2 All outdoor (security) lighting installed at the above-ground CIP facilities (i.e., storage reservoirs/tanks and pump stations) under the 2015 WFMP Update will use energy-efficient light emitting diodes, with motion sensor lighting controls to limit usage. Lighting adjacent to native vegetation communities will be of low illuminations, shielded, and directed downwards and away from these areas to avoid potential effects to nocturnal

wildlife from increased predation that would occur from "spill-over" of nighttime light levels into the adjacent habitats.

Ene-PDF-3 The OWD will conduct annual pump efficiency tests at each CIP project featuring a pump and correct any decreases in efficiency through the repair or replacement of appropriate pump components.

Ene-PDF-4 The OWD will employ soft starts and stops to all CIP project pumps and motors to reduce total electricity consumption during operation of pumps and motors.

Standards of Significance

Based on Public Resources Code Section 21100(b)(3), CEQA Guidelines Section 15126.4, and CEQA Appendix F: Energy Conservation implementation of the 2015 WFMP Update could have a significant impact associated with energy conservation if it would result in the wasteful, inefficient, or unnecessary consumption of energy.

Impact Analysis

Construction

Construction of the CIP projects would result in the consumption of fuel associated with the operation of construction equipment. Due to a number of unknown factors including the specific site conditions, the horsepower of the engine, the load factor of each machine, and the number of days each piece of equipment would be used, it is not possible to determine the precise total fuel consumption that would occur during construction at each CIP project site at this time. However, there are no unusual project site characteristics within OWD that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in other parts of the region and the state. Therefore, it is expected that construction fuel consumption associated with the CIP projects would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

Operation

Transportation Energy Demand. Traffic generated by the CIP projects is discussed in Section 4.12 (Transportation/Traffic). As addressed in this section, operation of CIP projects proposed under the 2015 WFMP Update would not generate a significant volume of new vehicle trips. The maintenance for most of the CIP projects may require approximately one visit per day. CIP projects located within the Regulatory potable water operating system (see Figure 3-2) may require as many as 5-10 trips per day. Vehicular trips associated with maintenance of the CIP projects would be minimal.

Electricity Demand. Of the proposed CIP projects, the only projects that would require energy to operate would be pump station projects (for standard operation as well as emergency generators). Pipeline projects and storage projects, once constructed, would not require the use of electricity, emergency generators, or any other type of fuel-consuming operating equipment.

None of the CIP projects would require space heating or landscape equipment.

The 2015 WFMP Update proposes construction of four new pump stations within Phase IIIA. The 2015 WFMP Update proposes rehabilitation, replacement or expansion of another 11 pump station. In addition, recycled water facility project CIP R2129 would upgrade the existing PS 680-1 pump station. CIP R2130

would upgrade the pump station at the 944-1 pump station. Implementation of Ene-PDF-1 though Ene-PDF-4 would reduce the electricity required at the proposed pump stations. Measures Ene-PDF-1 and Ene-PDF-2 ensure that the new mechanical components within the proposed pump stations are more energy efficient than older mechanical equipment in existing pump stations. Measures Ene-PDF-3 and Ene-PDF-4 insure that the CIP projects operate efficiently. Therefore, the proposed pump stations would not result in the wasteful, inefficient and unnecessary consumption of energy.

Mitigation/Performance Measures

Construction of the CIP projects proposed by the 2015 WFMP Update would result in the consumption of energy; however, this consumption would be similar to other projects in the region and not be wasteful, inefficient or unnecessary. Implementation of Ene-PDF-1, Ene-PDF-2, Ene-PDF-3, and Ene-PDF-4 would ensure that the operation of the CIP projects within the 2015 WFMP Update would not result in the wasteful, inefficient, and unnecessary consumption of energy; therefore, no mitigation is required.

4.4.4 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2015 WFMP Update

All issues associated with energy usage within CEQA Guidelines Appendix F: Energy Conservation have been discussed in this section of the PEIR.

4.4.5 References

Atkins. 2016. Draft 2015 Otay Water District Water Facilities Master Plan Update. May.

California Climate Change Portal. 2009. California Climate Adaptation Strategy Overview. Accessed November 18 2013 at http://www.climatechange.ca.gov/adaptation/index.html

Calpine. 2015. Otay Mesa Energy Center website. Accessed April 2, 2015 at http://www.calpine.com/power/plant.asp?plant=247

ICF Jones and Stokes (ICF). 2008. Otay Water District Carbon Footprint Assessment. November 2008.

San Diego Gas & Electric (SDG&E). 2015. Company Facts website. Accessed April 2, 2015 at http://www.sdge.com/

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4.5 Geology, Soils, and Paleontology

This section of the PEIR for the 2015 WFMP Update describes existing conditions within the planning area with respect to geology and soils, seismicity, and paleontological sensitivity; the potential physical environmental effects (direct, indirect, and/or cumulative) related to these issues resulting from development of CIP projects under the 2015 WFMP Update; and the project design features, standard construction practices, and mitigation/performance measures to reduce or avoid the identified impacts.

4.5.1 Environmental Setting

4.5.1.1 Geology

The planning area for the 2015 WFMP Update is situated in the Peninsular Ranges Geomorphic Province. The province spans approximately 900 miles from the Transverse Ranges and the Los Angeles Basin in the north to the southern tip of Baja California. The province varies in width from approximately 30 to 100 miles and is bounded by the Colorado Desert in the east and the coastal plain in the west.

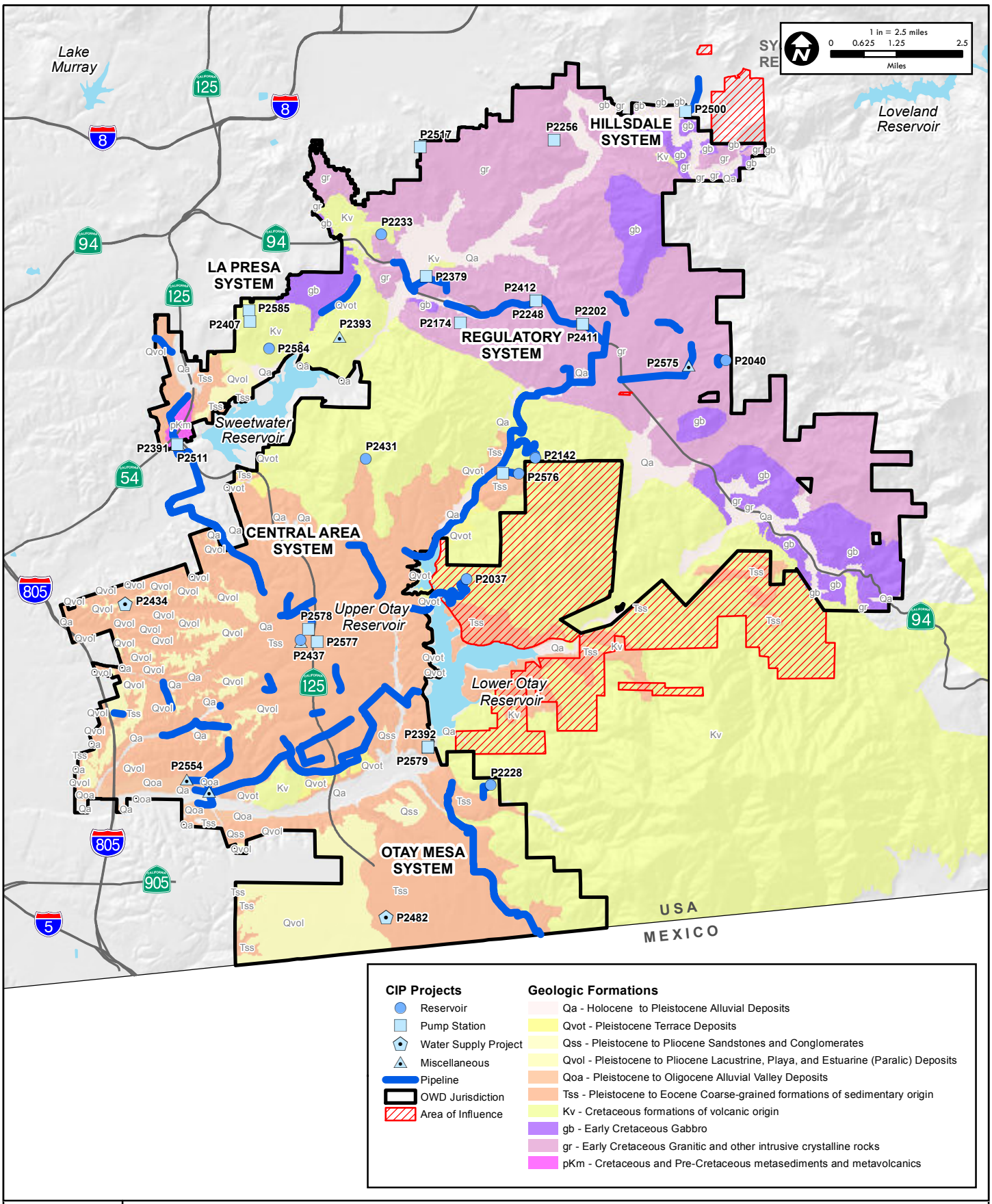
A geologic formation is a body of crustal rock identified by its lithic characteristics (e.g., grain size, texture, color, mineral content, fossil content) and stratigraphic position. Table 4.5-1 relates the epochal time periods associated with the geologic formations described in this section. Geologic formations known to underlie the Peninsular Ranges Geomorphic Province include:

- Sedimentary rock (sandstone, siltstone and conglomerate), including the Pauba Formation and the Temecula Arkose, that have filled the Warner Basin with up to 1,000 feet of upper Pliocene and lower to upper Pleistocene sediments;
- Table Mountain Gravels; and
- Jurassic metasedimentary rocks mapped as the Santiago Peak Volcanics.

Other geologic formations from the middle Eocene to early Pleistocene periods that are within the planning area include the Mission Valley, Sweetwater, Otay, San Diego, and Linda Vista formations. The planning area also contains geologic formations from the Quaternary period, including alluvial deposits, landslides, varieties of topsoil, and river terrace deposits, which only occur along the Sweetwater and Otay river valleys (Figure 4.5-1).

4.5.1.2 Soils and Related Hazards

The planning area is underlain by the following soil types: Cieneba-Fallbrook (very rocky), Diablo-Altamont, Diablo-Flores, Diablo-Linne, Eschequer-San Miguel (rocky), Fallbrook-Vista (rocky), Huerhuero-Stockpen, Las Posas (stony), Redding-Olivenhain, and Rockland. Table 4.5-2 lists some of the relevant characteristics of the aforementioned soils and their corresponding slope ranges.



Source: SanGIS 2014, CASIL 2009, ESRI 2016

ATKINS

Figure 4.5-1

Geologic Formations within the Planning Area

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.5-1 Geologic Formations.mxd

Table 4.5-1 Time Period Definitions for Epochs/Geologic Formations

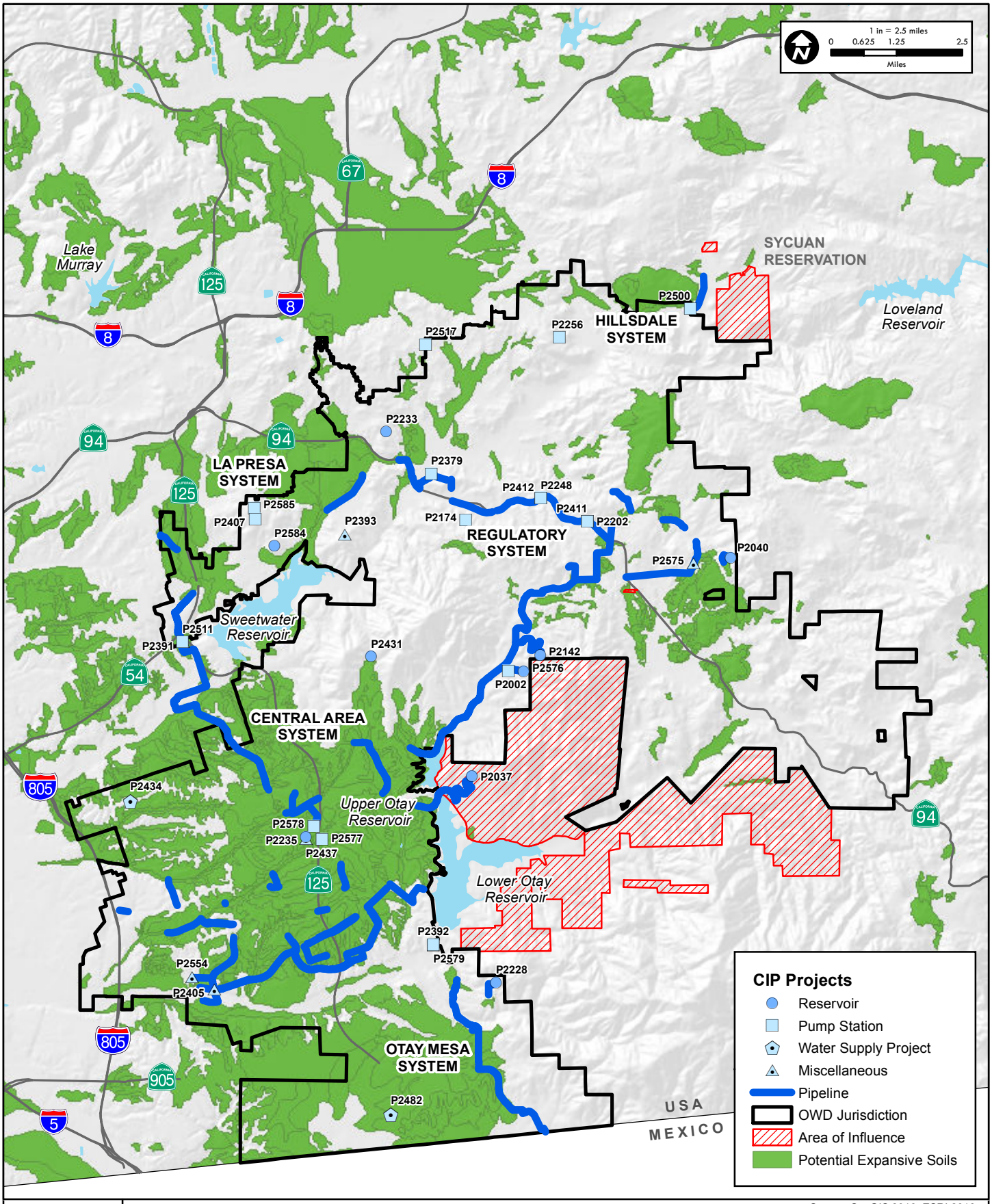
Epoch	Time Relevant to Present
Quaternary Period	
Holocene	10,000 years ago to the present
Pleistocene	1.8 million-10,000 years ago
Tertiary Period	
Pliocene	5-1.8 million years ago
Miocene	24-5 million years ago
Oligocene	34-24 million years ago
Eocene	55-34 million years ago
Paleocene	65-55 million years ago
Mesozoic Era	
Cretaceous Period	144-65 million years ago
Jurassic Period	206-144 million years ago
Triassic Period	248-206 million years ago
Source: SDNHM 2015	

Table 4.5-2 Soil Associations, Slope Ranges, and Characteristics

Soil Association	Slope Range	Characteristics
Cieneba-Fallbrook, very rocky	9-75%	Excessively drained to well-drained coarse sandy loams and sandy loams that have sandy clay loam subsoil over decomposed granodiorite.
Diablo-Altamont	15%	Well-drained clays.
Diablo-Flores	9-30%	Well-drained clays and moderately well-drained loamy fine sands that have subsoils of sandy clay.
Diablo-Linne	15-50%	Well-drained clays and loams.
Eschequer-San Miguel, rocky	30-75%	Well-drained silt loams and stony loams over metavolcanic rock.
Fallbrook-Vista, rocky	9-30%	Well-drained sandy loams and coarse sandy loams that have a subsoil of sandy clay loam and sandy loam over decomposed granodiorite.
Huerhuero-Stockpen	0-9%	Moderately well-drained loams to gravelly clay loams that have a subsoil of clay or gravelly clay.
Las Posas, stony	9-65%	Well-drained stony fine sandy loams that have clay subsoils over decomposed gabbro.
Redding-Olivenhain	9-50%	Well-drained gravelly loams and cobbly loams that have a subsoil of gravelly clay over a hardpan or cobbly alluvium.
Rockland	N/A	Dominantly exposed bedrock and very large boulders.
Source: PBS&J 2010		

Expansive Soils

Expansive soils generally result from clay minerals that have the capacity to shrink or swell in response to changes in moisture content. Figure 4.5-2 shows locations within the planning area that may contain expansive soils. Coarse soils such as sandy loam and loamy sands found within the Redding-Olivenhain, Fallbrook-Vista, Las Posas, Cienaba-Fallbrook, Diablo-Linne, and Diablo-Flores soil associations within the planning area have a known potential for shrinking and swelling. Shrinking and swelling in soils can damage foundations, concrete slabs, flatwork and pavement through differential compression or settlement, tilting and cracking, which can pose a potential hazard to structures and humans. Expansive soils found on slopes can cause slope failure.



Source: SanGIS 2016, ESRI 2016

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Figure 4.5-2

Potential Expansive Soil Areas

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.5-2 Expansive Soils.mxd

Subsidence (Settlement)

Subsidence is the downward settling of surface materials caused by natural or artificial removal of underlying support. Subsidence is a relatively slow process that may continue for several decades. Land subsidence could occur from one or more of several causes including withdrawal of subterranean fluids (oil, gas, or groundwater) or the application of water to moisture-deficient unconsolidated deposits. OWD does not currently have any groundwater wells within the planning area.

Landslides

Most landslides occur when the weight of water-saturated soil and rock exceeds the strength of the underlying material (known as overburden). Debris flow can also occur during landslides, which is caused by high rainfall, steep slopes, loss of vegetation cover, and high overburden. Within San Diego County, landslides have been known to occur within certain soils such as sandstone, siltstone, mudstone, and claystone. These soil types are fine-grained materials that often turn into clay when saturated. Saturated clays are most susceptible to causing landslides. Areas of steep topography within the local geologic formations are prone to landslides, including the southern portion of the planning area, south of the Otay River Valley, and in areas along the west side of Lower Otay Reservoir and to the north of Upper Otay Reservoir (PBS&J 2010).

4.5.1.3 Seismic Hazards

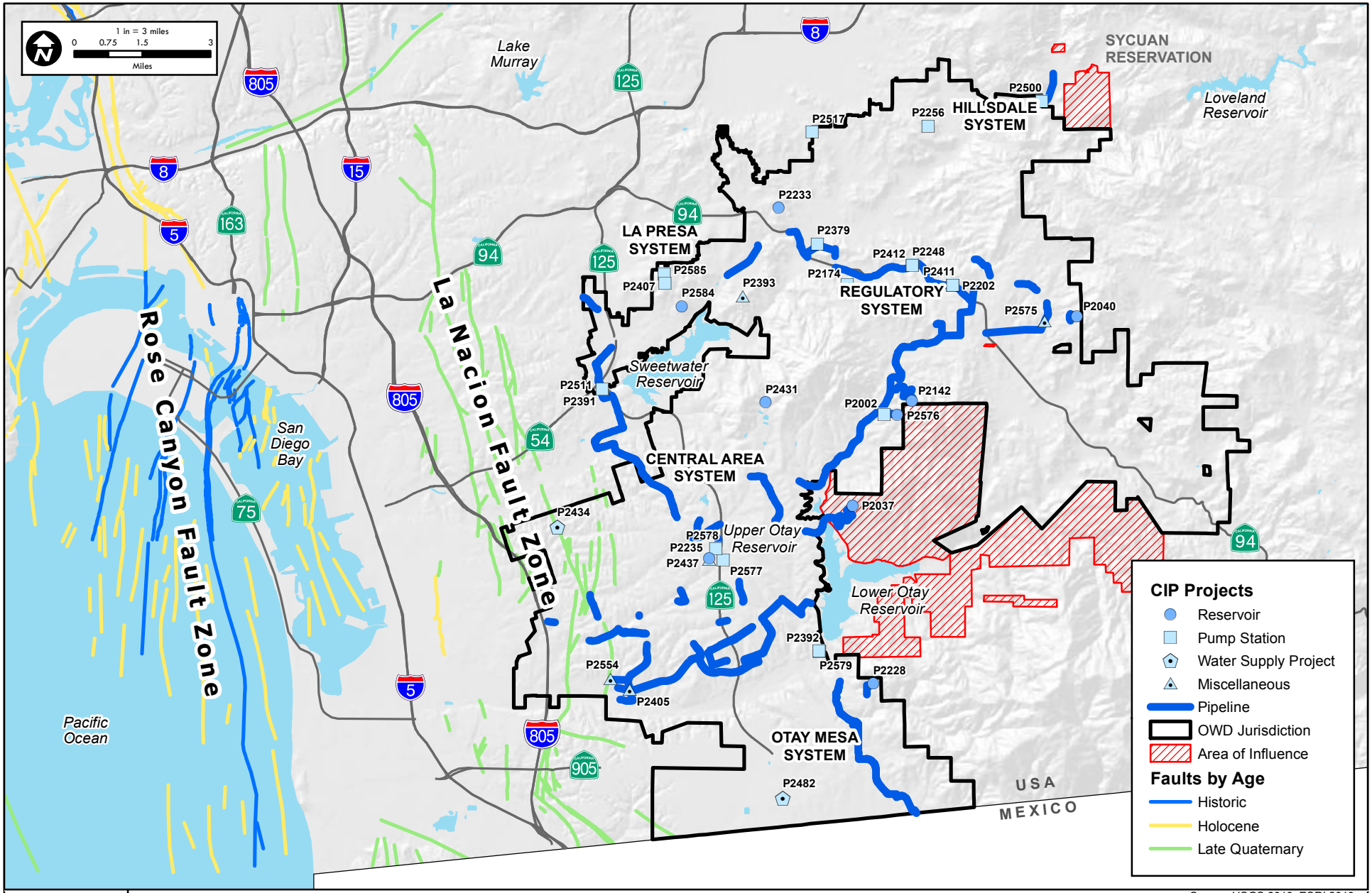
The Peninsular Ranges Province is crossed by a series of sub-parallel faults and fault zones generally trending northwest (Figure 4.5-3). Several of these faults are considered to be active. Active faults are defined as those that have exhibited evidence of ground displacement in the last 11,000 years; potentially active faults have exhibited evidence of ground displacement in the last 2,000,000 years. Within the mainland region, major active faults in San Diego County include Elsinore, La Nacion, and Rose Canyon. Within the ocean or nearby islands, active faults include Coronado Bank, San Diego Trough, and San Clemente faults.

Figure 4.5-3 shows the two major fault zones within the vicinity of the planning area. The La Nacion fault zone includes Late Quaternary and Holocene faults which transverse the western portion of the Central System of the OWD service area. The Rose Canyon fault zone contains a series of Holocene and Historic faults that lie west of the OWD service area beneath San Diego Bay and the Pacific Ocean.

Groundshaking and Surface Rupturing

Groundshaking as a result of earthquakes is a potential hazard throughout southern California, including within the planning area. The intensity of groundshaking at any particular site and the relative potential for damage from this hazard depends on the earthquake magnitude, distance from the source (epicenter), and the site response characteristics (ground acceleration, predominant period, and duration of shaking).

Unlike damage from seismic groundshaking, which can occur at great distances from a fault, damage due to surface rupturing is limited to the location of the fault-line break.



Source: USGS 2016, ESRI 2016

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Figure 4.5-3

Mapped Faults

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.5-3 Mapped Faults.mxd

Landslides

Earthquake-induced landslides are most likely to occur on steep slopes where groundshaking causes bedrock and/or soils to slide, thus weakening, damaging, or collapsing foundations and buildings. The risk for an earthquake-induced landslide can be determined by evaluating a site for evidence of a previous landslide; evaluating local topographic, geological, geotechnical, and subsurface water conditions; and determining if they would indicate a potential for permanent ground displacements.

Liquefaction

Liquefaction typically occurs when an area is subjected to strong seismic shaking, on-site soils are cohesionless, and groundwater is encountered within 50 feet of the surface. Under these conditions, a seismic event could result in a rapid increase in water pressure, such that soil particles begin to move and act as a liquid. This transformation from solid state to "liquid," as a response to seismically induced groundshaking, can cause structures supported on the soils to tilt or settle as the supporting capabilities of the soils diminish. Water-saturated, clay-free sediments generally are expected to have a high susceptibility to liquefaction.

The potential damaging effects of liquefaction include differential settlement, loss of ground support for foundations, ground cracking, and heaving and cracking of structure slabs. Figure 4.5-4 below shows locations within the planning area that may be susceptible to liquefaction.

4.5.1.4 Paleontology

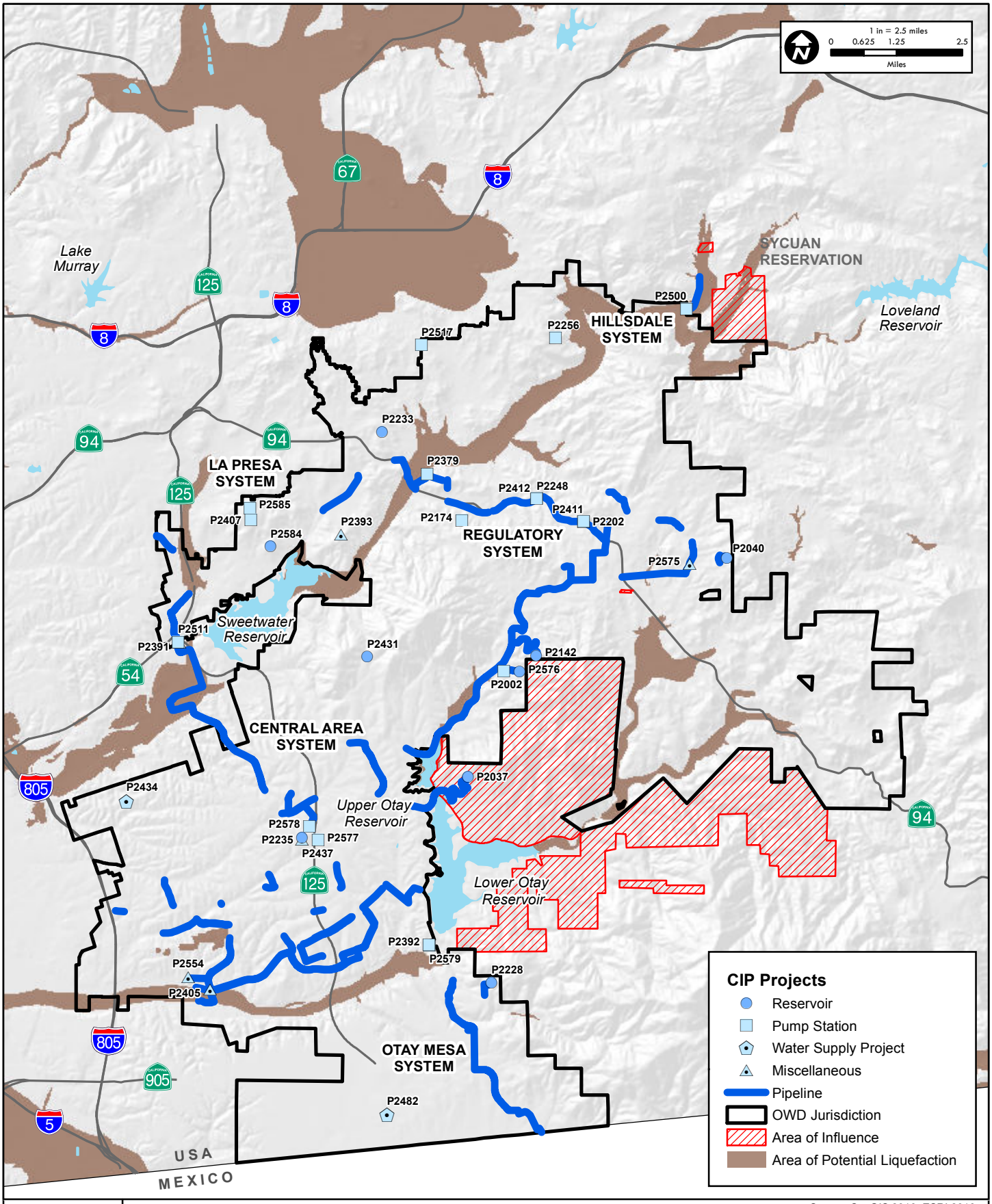
Paleontological resources (i.e., fossils) are the remains and/or traces of prehistoric plant and animal life exclusive of humans. Fossil remains including bones, teeth, shells, leaves, and wood are found in the geologic deposits (rock formations) within which they were originally buried. For the purposes of this PEIR, paleontological resources include not only the actual fossil remains, but also the collecting localities and the geologic formations containing those localities. The fossil content of a geologic formation may be considered a lithic characteristic of that formation.

The paleontological resource sensitivity of a geologic formation is directly related to the scientific significance of the fossils contained within; therefore, a formation that contains scientifically significant fossils at other localities is considered to have paleontological resource sensitivity. A fossil is considered to be scientifically significant if it provides important information on evolution and/or paleoecology, demonstrates unusual or spectacular circumstances during the earth's history, is uncommon or rare and in danger of being depleted or destroyed, and/or is a vertebrate fossil.

The following levels of sensitivity are assigned to individual geologic formations, and these sensitivities as they relate geographically to the planning area are shown in Figure 4.5-5.

High Sensitivity

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 paleobiology and 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.



Source: SanGIS 2016, ESRI 2016

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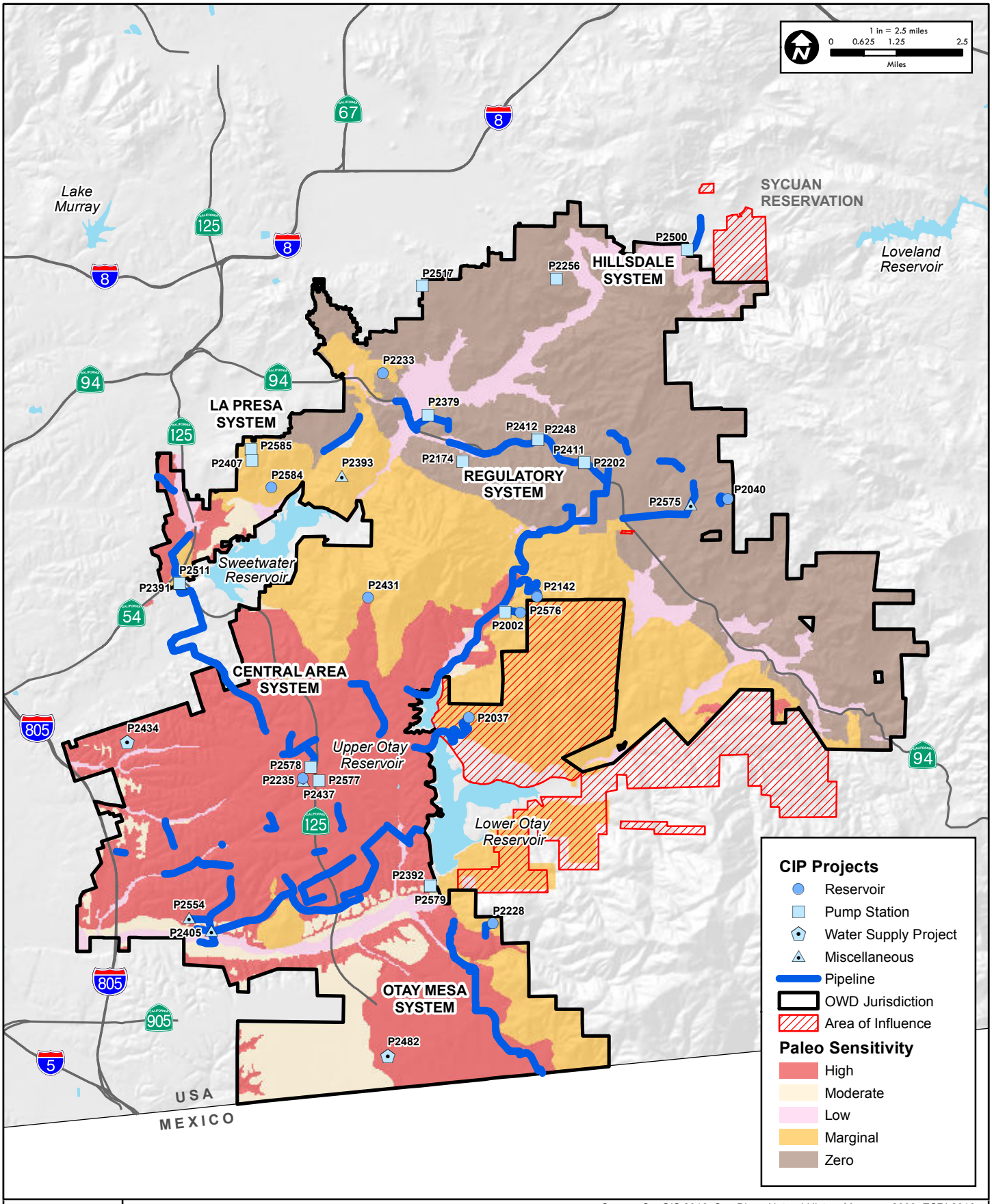
Figure 4.5-4

Potential Liquefaction Areas

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.5-4 Liquifaction Areas.mxd



Source: SanGIS 2016, San Diego Natural History Museum, 2009, ESRI 2016

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Figure 4.5-5

Paleontological Sensitivity Map

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10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.5-5 Paleontological Sensitivity.mxd

Moderate Sensitivity

Moderate resource potential and moderate sensitivity are assigned to geologic formations known to contain paleontological localities with poorly preserved, elsewhere common, or stratigraphically uninformative fossil material. These geologic formations are judged to have a strong, but often unproven, potential for producing unique fossil remains.

Low Sensitivity

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 and are assigned a low sensitivity rating for this reason. This is not to say that fossils will not be found, and when fossils are discovered in such formations, the fossils are often scientifically significant precisely for the reason that such formations rarely produce fossil remains.

Marginal Sensitivity

Marginal resource potential and marginal sensitivity are assigned to geologic formations that have a limited probability for producing fossils from certain sediments at localized outcrops.

Zero Sensitivity

Zero resource potential is assigned to geologic formations that are composed entirely of volcanic or igneous rock, such as basalt or granite, and therefore do not have any potential for producing fossil remains. These formations are not sensitive.

Unknown Sensitivity

Formations from which there are currently no known paleontological resources but which have the potential for producing such remains based on their sedimentary origin are assigned this classification. Formations with unknown sensitivity include Quaternary alluvium.

4.5.2 Regulatory Framework

4.5.2.1 Federal

Federal Uniform Building Code

The federal Uniform Building Code (UBC) is a model building code that provides the basis for the California Building Code (CBC). The UBC defines different regions of the U.S. and ranks them according to their seismic hazard potential. There are four types of these regions, which include Seismic Zones 1 through 4, with Zone 1 having the least seismic potential and Zone 4 having the highest seismic potential. The planning area is located in Seismic Zone 4.

4.5.2.2 State

California Building Code

The CBC, based largely on the UBC, provides a minimum standard for building design. Chapter 23 of the CBC contains specific requirements for seismic safety. Chapter 29 of the CBC regulates excavation, foundations, and retaining walls. Chapter 33 of the CBC contains specific requirements pertaining to site demolition, excavation, and construction to protect people and property from hazards associated with excavation cave-ins and falling debris or construction materials. Chapter 70 of the CBC regulates grading activities, including drainage and erosion control. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in California Occupational Safety and Health Administration (Cal/OSHA) regulations (CCR Title 8 and in Section A33 of the CBC.

California Alquist-Priolo Earthquake Fault Zoning Act

The California Legislature passed this law in 1972 for the purpose of prohibiting the development of human-occupied structures within active fault areas, and to thereby mitigate the hazards associated with earthquake fault rupture. Since none of the OWD facilities involve human habitation, the Alquist-Priolo (AP) Earthquake Fault Zoning Act is not applicable to the 2015 WFMP Update.

California Seismic Hazards Mapping Act

The California Geologic Survey, formerly the California Department of Conservation, Division of Mines and Geology (CDMG), provides guidance with regard to seismic hazards. Under CDMG's Seismic Hazards Mapping Act (1990), seismic hazard zones are identified and mapped to assist local governments in land use planning. The intent of this publication is to protect the public from the effects of strong groundshaking, liquefaction, landslides, ground failure, or other hazards caused by earthquakes. In addition, CDMG's Special Publications 117, "Guidelines for Evaluating and Mitigating Seismic Hazards in California," provides guidance for the evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigations.

National Pollution Discharge Elimination System Permits

In California, the State Water Resources Control Board (SWRCB) and its Regional Water Quality Control Board (RWQCB) administer the NPDES permit program. The NPDES permit system was established as part of the CWA (discussed further in Section 4.7, Hydrology and Water Quality, of this PEIR) to regulate both point source discharges and nonpoint source discharges to surface waters of the U.S. The National Pollution Discharge Elimination System Permits (NPDES) program consists of characterizing receiving water quality, identifying harmful constituents, targeting potential sources of pollutants, and implementing a comprehensive storm water management program. Construction and industrial activities are typically regulated under statewide general permits that are issued by the SWRCB. Additionally, the SWRCB issues Waste Discharge Requirements that also serve as NPDES permits under the authority delegated to the RWQCBs, under the CWA.

4.5.2.3 Local

County of San Diego Special Studies Zones

The AP Earthquake Fault Zoning Act allows local municipalities the option of setting policies that are more stringent than those within the Act. Following this option, the County of San Diego established Special Study Zones based on information from the CDMG. Using this information, the County produced maps of late-Quaternary faults that have a high potential for seismic activity. Faults that the County has deemed as existing within the Special Study Zones are considered to be active by the County unless a fault investigation can prove otherwise. Projects within the county must be assessed to determine if they exist within the Special Study Zones.

County of San Diego Grading Ordinance

Chapter 4 of the County Grading Ordinance (Section 87.101 et seq.) includes requirements for the maximum slope allowed for cuts and fills, drainage terraces on cut or fill slopes exceeding 40 feet in height, expansive soils for cuts and fills, minimum building setbacks from cut and fill slopes, and a soil engineer's report which includes specific approval of the grading as affected by geological factors.

Section 87.430 of the County Grading Ordinance provides for the requirement of a paleontological monitor at the discretion of the County. In addition, the suspension of grading operations is required upon the discovery of fossils greater than 12 inches in any dimension. The ordinance also requires notification of the county official (i.e., Permit Compliance Coordinator). The ordinance gives the county official the authority to determine the appropriate resource recovery operations, which shall be carried out prior to the county official's authorization to resume normal grading operations.

4.5.3 Project Impacts and Mitigation

4.5.3.1 Issue 1 – Exposure to Seismic-Related Hazards

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following PDF and SCP to reduce potential impacts associated with exposure to seismic-related hazards.

Geo-PDF-1 At the time of CIP project design, OWD will implement the relevant requirements of the 2013 UBC and CBC, as updated or amended, and the CDMG Special Publication 117.

Geo-SCP-1 Prior to construction of CIP projects, areas of liquefaction and/or landslides will be identified as part of site-specific geotechnical investigations. The investigations will specifically address foundation and slope stability in liquefiable and landslide areas proposed for construction. Recommendations made in conjunction with the geotechnical investigations will be implemented during construction, including but not limited to the following actions:

i. Over-excavate unsuitable materials and replace them with engineered fill.

ii. For thinner deposits, remove loose, unconsolidated soils and replace with properly compacted fill soils, or apply other design stabilization features (i.e., excavation of overburden).

iii. For thicker deposits, implement applicable techniques such as dynamic compaction (i.e., dropping heavy weights on the land surface), vibro-compaction (i.e., inserting a vibratory device into the liquefiable sand), vibro-replacement (i.e., replacing sand by drilling and then vibro-compacting backfill in the bore hole), or compaction piles (i.e., driving piles and densifying surrounding soil).

iv. Lower the groundwater table to below the level of liquefiable soils.

v. Perform in-situ densification of soils or other alterations to the ground characteristics.

vi. For landslides, implement applicable techniques such as stabilization (i.e., construction of buttress fills, retaining walls, or other structural support to remediate the potential for instability of cut slopes composed of landslide debris); remedial grading and removal of landslide debris (e.g., over-excavation and recompaction); or avoidance (e.g., structural setbacks).

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if people or CIP facilities would be exposed to substantial adverse effects, including the risk of loss, injury, or death involving:

- Rupture of a known earthquake fault, as delineated on the most recent AP Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault;
- Strong seismic groundshaking;
- Seismic-related ground failure, including liquefaction; or
- Landslides.

Impact Analysis

Fault Rupture

As shown in Figure 4.5-3, two CIP Phase II projects, P2554 (624/340 PRS at Energy Way and Nirvana Avenue) and P2405 (624/340 PRS, Heritage Road and Hard Rock Road), would be located in the vicinity of an active fault. Implementation of Geo-PDF-1 would ensure that this project would be designed in accordance with UBC and CBC regulations regarding seismic hazards. Therefore, the project would be equipped to withstand seismic events associated with active faults, and impacts attributed to fault rupture would be reduced to a less than significant level.

Groundshaking

Groundshaking from earthquakes along any of the regional active faults listed in Section 4.5.1.3 above, or along any of the local active faults mapped within the planning area (Figure 4.5-3), could cause substantial damage to proposed reservoirs, pump stations, pipelines, groundwater wells, and other CIP facilities

under the 2015 WFMP Update. However, all CIP facilities would be designed to withstand damage from seismic groundshaking to the extent feasible via compliance with the relevant requirements of the 2013 UBC and CBC, as updated or amended, and the CDMG Special Publication 117. Therefore, implementation of Geo-PDF-1 would reduce the exposure of people and CIP facilities to substantial adverse effects of strong seismic groundshaking to a less than significant level.

Ground Failure and Liquefaction

Based on the presence of liquefiable soils within a corridor along the Sweetwater River (Figure 4.5-4), there is a potential for seismic-related ground failure and liquefaction to occur in this area that could cause substantial damage to two Phase II pipeline projects, P2500 (Padre Dam - Otay Interconnection, Dehesa Valley) and P2405 (624/340 PRS, Heritage Road and Hard Rock Road), and one Phase IIIB pump station project, P2379 (832-1 Pump Station Expansion, from 4,200 to 6,800 gpm). Geo-SCP-1 would require the completion of a geotechnical study prior to pipeline construction to adequately assess geotechnical issues, including the liquefaction potential of unconsolidated alluvium underlying the pipeline alignment. The geotechnical study would include sampling of subsurface earth materials; if such materials are found to be susceptible to seismically induced liquefaction, then appropriate techniques to minimize this potential would be designed and implemented, including but not limited to, removal or treatment of liquefiable soils, drainage to lower the groundwater table to below the level of liquefiable soils, in-situ densification of soils, or other alterations to the ground characteristics. Therefore, implementation of Geo-SCP-1 would reduce the exposure of people and CIP facilities to substantial adverse effects of seismic-related ground failure and liquefaction to a less than significant level.

Landslides

Based on the presence of relatively steep topography and the underlying geologic formations (Figure 4.5-2), there is a potential for seismically induced landslides to cause substantial damage to the following CIP projects under the 2015 WFMP Update: P2002 (1296-2 Proctor Valley Pump Station, 4,000 gpm), P2576 (980-5 Reservoir Village 14, 2.0 MG), and P2228 (870-2 Reservoir, 7.0 MG [previously 10 MG]) projects to adequately assess geotechnical issues, including landslide potential. Such geotechnical study would include sampling of subsurface earth materials. If such materials are found to be susceptible to seismically induced landslides, then appropriate techniques to minimize this potential would be designed and implemented, including but not limited to, remedial grading and removal of landslide debris, slope stabilization in areas of proposed development, or construction of buttress fills to remediate the potential for instability of cut slopes composed of landslide debris. Therefore, implementation of Geo-SCP-1 would reduce the exposure of people and CIP facilities to substantial adverse effects of seismically induced landslides to a less than significant level.

Mitigation/Performance Measures

Implementation of Geo-PDF-1 and Geo-SCP-1 would reduce the exposure of people and CIP facilities to substantial adverse effects associated with seismically induced groundshaking, ground failure, liquefaction potential, and landslides to a less than significant level; therefore, no mitigation is required.

4.5.3.2 Issue 2 – Soil Erosion or Topsoil Loss

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCPs to reduce potential impacts associated with soil erosion or loss of topsoil, in addition to Geo-PDF-1 (refer to Section 4.5.3.1 Issue 1 above).

Geo-SCP-2 Prior to construction of CIP projects, areas of severely erodable soils will be identified as part of site-specific geotechnical investigations. The investigations will specifically address foundation and slope stability in erodable soils proposed for construction. Recommendations made in conjunction with the geotechnical investigations will be implemented during construction, including but not limited to the following actions:

i. Minimize disturbance to existing vegetation and slopes.

ii. Construct drainage control devices (e.g., storm drains, brow ditches, subdrains, etc.) to direct surface water runoff away from slopes and other graded areas.

iii. Provide temporary hydroseeding of cleared vegetation and graded slopes as soon as possible following grading activities for areas that will remain in disturbed condition (but will not be subject to further construction activities) for a period greater than two weeks during the construction phase.

Geo-SCP-3 The construction bid documents for each CIP project will include either a 90 percent Erosion Control Plan (for projects that would result in less than one acre of land disturbance) or a 90 percent Storm Water Pollution Prevention Plan (SWPPP) (for projects that would result in one acre or greater of land disturbance). The Erosion Control Plan will comply with the storm water regulations or ordinances of the local agency jurisdiction within which the CIP project occurs, while the SWPPP will comply with the NPDES General Construction Permit. These plans will be based on site-specific hydraulic and hydrologic characteristics, and identify a range of BMPs to reduce impacts related to storm water runoff, including sedimentation BMPs to control soil erosion. The construction contractor will identify the specific storm water BMPs to be implemented during the construction phase of a given CIP project, and will prepare and implement the final Erosion Control Plan or SWPPP for that project. Typical BMPs to be implemented as part of the Erosion Control Plan or SWPPP may include, but may not be limited to, the actions listed below. For protection of finished graded areas and manufactured slopes, the construction contractor will implement OWD Standard Specifications for Slope Protection and Erosion Control (Section 02202).

i. Implement a “weather triggered” action plan during the rainy season involving installation of enhanced erosion and sediment control measures prior to predicted storm events (i.e., 40 percent or greater chance of rain).

ii. Use erosion control/stabilizing measures in cleared areas and on graded slopes of 3:1 (horizontal to vertical) gradient or steeper, such as geotextiles, mats, fiber rolls, soil binders, or temporary hydroseeding.

iii. Use sediment controls to protect the site perimeter and prevent off-site sediment transport, such as filtration devices (e.g., temporary inlet filters), silt fences, fiber rolls, gravel bags, temporary sediment basins, check dams, street sweeping, energy dissipaters, stabilized construction access points (e.g., temporary gravel or pavement) and sediment stockpiles (e.g., silt fences and tarps), and properly fitted covers for sediment transport vehicles.

iv. Divert runoff from uphill areas around disturbed areas of the construction site.

v. Protect storm drain inlets on-site or downstream of the construction site to eliminate entry of sediment.

vi. Store BMP materials in on-site areas to provide "standby" capacity adequate to provide complete protection of exposed areas and prevent off-site sediment transport.

vii. Train personnel responsible for BMP installation and maintenance.

viii. Implement solid waste management efforts such as proper containment and disposal of construction debris.

ix. Install permanent landscaping (or native vegetation in areas adjacent to natural habitats) and irrigation as soon as feasible after final grading or construction.

x. Implement appropriate monitoring and maintenance efforts (e.g., prior to and after storm events) to ensure proper BMP function and efficiency.

xi. Implement sampling/analysis, monitoring/reporting and post-construction management programs per NPDES requirements.

xii. Implement additional BMPs as necessary (and as required by appropriate regulatory agencies) to ensure adequate erosion and sediment control.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if CIP construction projects would result in substantial soil erosion or loss of topsoil.

Impact Analysis

Impacts from Construction Activities

Earth-disturbing activities associated with construction and development of the CIP projects under the 2015 WFMP Update would expose soils that could be subject to erosion during rain events. In compliance with 2013 UBC and CBC regulations, a geotechnical study would be performed prior to construction of CIP projects to adequately assess geotechnical issues, including soil erosion potential. Such geotechnical study would include sampling of subsurface earth materials. If such materials are found to be susceptible to soil erosion, then appropriate techniques to minimize this potential would be designed and implemented, including but not limited to, minimizing disturbance to existing vegetation and slopes, construction of drainage control devices, and temporary hydroseeding of cleared vegetation and graded slopes. In addition, all CIP construction contractors are required to implement either an Erosion Control Plan (for projects that would result in less than one acre of land disturbance), in accordance with the storm water

regulations or ordinances of the local agency jurisdiction within which the CIP project occurs, or a SWPPP (for any project greater than one acre in size), in accordance with the NPDES General Construction Permit. These plans identify BMPs to reduce impacts related to storm water runoff, including sedimentation BMPs to control soil erosion. Therefore, implementation of Geo-PDF-1, Geo-SCP-2 and Geo-SCP-3 would reduce impacts associated with soil erosion or loss of topsoil resulting from CIP construction projects to a less than significant level.

Impacts Following Construction

Upon completion of construction, each CIP project site would be developed according to the 2015 WFMP Update and relevant erosion control regulations (refer to Geo-SCP-2 and Geo-SCP-3). Any stockpiled topsoils would be reapplied to the surface of areas proposed for landscaping or revegetation; all residual stockpiles of construction debris, unusable soils, rock, and other materials would be removed from the project site. All permanent manufactured slopes, graded areas and exposed soils would be landscaped (or revegetated in areas adjacent to natural habitats) and irrigated as soon as feasible after final grading or construction to minimize the effects of wind and water erosion. All landscaped or revegetated areas would be monitored and maintained (including irrigation systems) to ensure successful plant establishment. Therefore, implementation of Geo-PDF-1, Geo-SCP-2 and Geo-SCP-3 would reduce impacts associated with soil erosion or loss of topsoil following construction of CIP projects to a less than significant level.

Mitigation/Performance Measures

Implementation of Geo-PDF-1, Geo-SCP-2 and Geo-SCP-3 would reduce impacts associated with soil erosion or loss of topsoil to a less than significant level; therefore, no mitigation is required.

4.5.3.3 Issue 3 – Geologic/Soil Instability

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCPs to reduce potential impacts associated with geologic/soil instability, in addition to Geo-SCP-1 (refer to Section 4.5.3.1 above).

Geo-SCP-4 Prior to construction of CIP projects, areas of geologic/soil instability will be identified as part of site-specific geotechnical investigations. The investigations will specifically address foundation and slope stability within unstable geologic units/soils proposed for construction. Recommendations made in conjunction with the geotechnical investigations will be implemented during construction, including but not limited to the following actions:

i. Perform site-specific settlement analyses in areas deemed appropriate by the geotechnical engineer and evaluate the potential for groundwater-related subsidence.

ii. Over-excavate unsuitable materials and replace them with engineered fill.

iii. To minimize or avoid lateral spreading of on-site soils, remove compressible soils and replace them with properly compacted fill, perform compaction grouting or deep dynamic compaction, or use stiffened conventional foundation systems.

iv. To minimize or avoid differential compression or settlement of on-site soils, manage oversized material (i.e., rocks greater than 12 inches) via off-site disposal, placement in non-structural fill, or crushing or pre-blasting to generate material less than 12 inches. Oversized material greater than 4 feet will not be used in fills, and will not be placed within 10 feet of finished grade, within 10 feet of manufactured slope faces (measured horizontally from the slope face), or within 3 feet of the deepest pipeline or other utilities.

v. To minimize or avoid shrinking/swelling of on-site expansive soils, over-excavate for deeper fills (at least five feet below finished grade).

vi. Locate foundations and larger pipelines outside of cut/fill transition zones and landscaped irrigation zones.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if any CIP projects would be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, causing on- or off-site landslides, lateral spreading, subsidence, or liquefaction/collapse.

Impact Analysis

Landslides

Even in the absence of a seismic event, the San Diego and Otay geologic formations have been historically susceptible to landslides throughout San Diego County, particularly where these formations occur on steep slopes and when they have become saturated. As discussed in Section 4.5.3.1 above, there is a potential for seismically induced landslides to cause substantial damage to the following CIP projects under the 2015 WFMP Update: P2374 (PL 30-in, 870 Zone, 870-2 Reservoir to 870-1 Reservoir), P2002 (1296-2 Proctor Valley Pump Station, 4,000 gpm), P2576 (980-5 Reservoir Village 14, 2.0 MG), and P2228 (870-2 Reservoir, 7.0 MG [previously 10 MG]). However, implementation of Geo-SCP-1 would reduce these impacts to a less than significant level.

Lateral Spreading

The sites of P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2235 (624-4 Emergency Reservoir, 30 MG (previously 40 MG), P2437 (624-4 Disinfection Facility), P2577 (980-2 Pump Station Expansion, from 12,000 to 16,000 gpm), and P2578 (711-2 Pump Station [PS 711-1 replacement], from 10,000 to 14,000 gpm) are underlain by soils that have the potential for lateral spreading (Figure 4.5-2). Geo-SCP-1 and Geo-SCP-4 require the completion of a geotechnical study prior to construction of these CIP projects to adequately assess geotechnical issues, including the potential for lateral spreading. Such geotechnical study would include sampling of subsurface earth materials. If such materials are found to be susceptible to lateral spreading, then appropriate techniques to minimize this potential would be designed and implemented, including but not limited to, removal of compressible soils and replacement with properly compacted fill, compaction grouting or deep dynamic compaction, use of stiffened conventional foundation systems, management of oversized materials, or placement of foundations and larger pipelines outside of cut/fill transition zones and landscaped irrigation zones. Therefore, implementation

of Geo-SCP-1 and Geo-SCP-4 would reduce potential structural impacts to the CIP facilities associated with lateral spreading to a less than significant level.

Subsidence

Construction of CIP projects under the 2015 WFMP Update may require short-term dewatering operations that necessitate groundwater-pumping within the OWD service area. Because land subsidence is a relatively slow process that may continue for several decades, such short-term use of groundwater is not expected to result in substantial subsidence effects locally. Therefore, short-term dewatering operations associated with construction of CIP projects under the 2015 WFMP Update would not result in significant impacts associated with subsidence. Long-term operations associated with the Otay Mesa Lot 7 Groundwater Well System (P2484) would involve groundwater extraction, which can result in local subsidence. Implementation of Geo-SCP-4 would evaluate the potential of subsidence associated with these two projects and reduce these impacts to a less than significant level.

Liquefaction/Collapse

As discussed in Section 4.5.3.1 above, based on the presence of liquefiable soils within a corridor along the Sweetwater River (Figure 4.5-4), there is a potential for seismic-related liquefaction and ground failure to occur in this area that could cause substantial damage to two Phase II pipeline projects, P2500 (Padre Dam - Otay Interconnection, Dehesa Valley) and P2405 (624/340 PRS, Heritage Road and Hard Rock Road), and one Phase IIIB pump station project, P2379 (832-1 Pump Station Expansion, from 4,200 to 6,800 gpm). However, implementation of Geo-SCP-1 would reduce this impact to a less than significant level.

Mitigation/Performance Measures

Implementation of Geo-SCP-2 and Geo-SCP-4 would reduce impacts associated with geologic/soil instability that could result in on or off-site landslides, lateral spreading, subsidence, or liquefaction/ collapse to a less than significant level; therefore, no mitigation is required.

4.5.3.4 Issue 4 – Expansive Soils

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, Geo-SCP-4 (refer to Section 4.5.3.3 above) to reduce potential impacts associated with expansive soils.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if any CIP projects would be located on expansive soils, as defined in Table 18-1-B of the UBC (1994 or most current edition), creating substantial risks to life or property.

Impact Analysis

The potential for expansive soils exists throughout large portions of the planning area (Figure 4.5-2). Geo-SCP-1 and Geo-SCP-4 require the completion of a geotechnical study prior to construction of CIP projects involving excavation activities to adequately assess geotechnical issues, including the potential for expansive soils. The geotechnical study would include soil sampling of the final sub-grade areas and

excavation sidewalls for their expansion index. For areas where the expansion index is found to be greater than 20, appropriate techniques to minimize the shrink/swell potential would be designed and implemented, including but not limited to, removal of expansive soils and replacement with properly compacted fill, management of oversized materials, over-excavation for deeper fills, or placement of foundations and larger pipelines outside of cut/fill transition zones and landscaped irrigation zones. Therefore, implementation of Geo-SCP-1 and Geo-SCP-4 would reduce impacts associated with expansive soils resulting from CIP construction projects to a less than significant level.

Mitigation/Performance Measures

Implementation of Geo-SCP-1 and Geo-SCP-4 would reduce impacts associated with expansive soils to a less than significant level; therefore, no mitigation is required.

4.5.3.5 Issue 5 – Paleontological Resources

Project Design Features/Standard Construction Practices

There are no PDFs or SCPs identified to reduce potential impacts on paleontological resources.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if CIP construction projects would directly or indirectly destroy a unique paleontological resource or site. Because paleontological resources are typically buried and, therefore, not apparent until revealed by excavation, significant impacts to paleontological resources are often determined based on the geologic formations that would be disturbed and the potential for those geologic formations to contain fossils.

Impact Analysis

As shown in Figure 4.5-5, portions of the planning area are underlain by geologic formations that have potential to contain fossils. For the CIP pipelines, impacts to potential paleontological resources within these geologic formations would only occur for those projects that would involve excavation into native soils, below the level of roadway fill materials. Some pipeline projects may only require excavation into roadway fill material, which would not disturb potential paleontological resources; however, the depth of fill along the CIP pipeline routes is unknown at this time. In the absence of such data, it must be assumed that grading and excavation activities associated with all of the CIP pipeline projects could have significant impacts to potential paleontological resources. In addition, grading and excavation activities associated with the following CIP reservoirs, pump stations, and related activities which would occur within the "high," "moderate," "low," and "marginal" paleontological sensitivity areas (Figure 4.5-5), could have significant impacts to potential paleontological resources. Table 4.5-3 below lists projects that would occur within established areas of paleontological sensitivity.

Table 4.5-3 CIPs Located in Paleontologically Sensitive Areas

CIP	Description	Paleontological Sensitivity Level
P2405	PL - 624/340 PRS, Heritage Road and Hard Rock Road	High
P2431	Res - 980-4 Reservoir, 8.0 MG (previously 5 MG)	High
P2437	Dis 624-4 Disinfection Facility	High
P2482	Otay Mesa Lot 7 Groundwater Well System	High
P2554	624/340 PRS at Energy Way and Nirvana Avenue	High
P2577	PS - 980-2 Pump Station Expansion, from 12,000 to 16,000 gpm	High
P2578	PS - 711-2 Pump Station (PS 711-1 replacement),from 10,000 to 14,000 gpm	High
P2392	PS -Lower Otay PS Replacement and Expansion, from 12,500 to 18,000 gpm	Moderate
P2579	PS - Temporary Lower Otay Pump Station Rehabilitation	Moderate
P2379	PS - 832-1 Pump Station Expansion, from 4,200 to 6,800 gpm	Low
P2500	Padre Dam - Otay Interconnection, Dehesa Valley	Low
P2002	PS - 1296 -2 Proctor Valley Pump Station, 4,000 gpm	Marginal
P2037	Res - 980-3 Reservoir, Resort Parcel, 4.0 MG (previously 13 MG)	Marginal
P2142	Res - 1296-4 Reservoir, Village 14, 2.0 MG	Marginal
P2228	Res - 870-2 Reservoir, 7.0 MG (previously 10 MG)	Marginal
P2233	Res - 640-3 Emergency Reservoir, 10.0 MG	Marginal
P2391	PS - Perdue WTP Pump Station, 10,000 gpm	Marginal
P2393	PS - Pointe Hydro Pump Station Expansion, from 240 to 400 gpm	Marginal
P2407	Dictionary Hill Fireflow Capacity pipeline Improvements	Marginal
P2576	Res - 980-5 Reservoir, Village 14, 2.0 MG	Marginal
P2584	Res - 657-1 and 657-2 Reservoir Demolitions	Marginal
P2585	PS - 1200-2 Pump Station, 1,000 gpm	Marginal

Mitigation/Performance Measures

Implementation of the following measures would reduce impacts to potential paleontological resources to a less than significant level. These are considered both mitigation and performance measures since the same measures are required for both the near-term and long-term projects.

Geo-5A During the design phase for all CIP pipeline projects within the 2015 WFMP Update, available data shall be reviewed on the depth of fill below existing roads in which pipelines would be installed. If such review indicates that native soils would not be disturbed by pipeline trenching activities, then paleontological monitoring will not be required for those CIP projects, and this determination shall be documented by OWD in accordance with CEQA requirements. If it is determined that native soils would be disturbed by pipeline trenching activities, then a paleontological monitoring program shall be implemented in accordance with measures Geo-5B through Geo-5D.

Geo-5B Prior to grading for CIP projects, OWD shall retain a qualified paleontologist to monitor all ground-disturbing activities for all CIP projects described under Section 4.5.3.5 (Issue 5 Impact Analysis) of the PEIR. A record of monitoring activity shall be submitted to OWD each month and at the end of monitoring.

Geo-5C In the event fossils are discovered during ground-disturbing activities, the on-site construction supervisor shall be notified and shall redirect work away from the location of the discovery, so that the fossils can be removed by the paleontologist for significance evaluations. The on-site construction supervisor shall be notified by the paleontologist when the fossils have been removed, at which time the construction supervisor shall direct work to continue in the location of the fossil discovery.

Geo-5D For fossils removed from the construction site in accordance with measure Geo-5C that are determined to be significant, the following measures shall be implemented:

i. The paleontologist shall ensure that all significant fossils collected are cleaned, identified, catalogued, and permanently curated with an appropriate institution with a research interest in the materials;

ii. The paleontologist shall ensure that specialty studies are completed, as appropriate, for any significant fossil collected; and

iii. The paleontologist shall ensure that curation of fossils are completed in consultation with OWD. A letter of acceptance from the curation institution shall be submitted to OWD.

4.5.4 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2015 WFMP Update

Would the planning area have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?

The 2015 WFMP Update would not involve the use of septic tanks or other alternative wastewater disposal systems; therefore, no further evaluation is necessary.

4.5.5 References

Atkins. 2016. Draft 2015 Otay Water District Water Facilities Master Plan Update. May.

PBS&J. 2010. Final Program Environmental Impact Report for the Otay Water District 2009 Water Resources Master Plan Update. January.

San Diego Natural History Museum (SDNHM). 2015. Geologic Time Scale. Accessed May 11, 2015 at https://www.sdnhm.org/archive/exhibits/mystery/fg_timeline.html

4.6 Global Climate Change

This section of the PEIR for the 2015 WFMP Update describes existing conditions within the planning area with respect to global climate change; the potential physical environmental effects (direct, indirect, and/or cumulative) related to these issues resulting from development of CIP projects under the 2015 WFMP Update; and the project design features, standard construction practices, and mitigation/ performance measures to reduce or avoid the identified impacts.

4.6.1 Environmental Setting

4.6.1.1 Greenhouse Gases

California Health and Safety Code Section 38505(g) defines greenhouse gases (GHGs) to include the following compounds: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Carbon dioxide (CO_2) enters the atmosphere through the burning of fossil fuels, solid waste, trees and wood products, and as a result of other chemical reactions such as through the manufacturing of cement. Globally, the largest source of CO_2 emissions is the combustion of fossil fuels in power plants, automobiles, industrial facilities, and other similar sources. CH_4 is emitted from a variety of both natural and human-related sources, including fossil fuel production, animal husbandry, rice cultivation, biomass burning, and waste management. N_2O is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste (EPA 2016a). HFCs, PFCs, and SF_6 are synthetic, powerful GHGs that are emitted from a variety of industrial processes, and the production of chlorodifluoromethane (HCFC-22). Implementation of the 2015 WFMP Update would not include any industrial processes, and HCFC-22 has been mostly phased out of use in the U.S. (UNEP 2012); therefore, these GHGs are not included in this analysis.

Individual GHGs have varying heat-trapping properties and atmospheric lifetimes. Table 4.6-1 identifies the CO_2 equivalent (CO_2e) and atmospheric lifetimes of basic GHGs. The CO_2e is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent measure. Each GHG is compared to CO_2 with respect to its ability to trap infrared radiation, its atmospheric lifetime, and its chemical structure. For example, CH_4 is a GHG that is 25 times more potent than CO_2; therefore, one metric ton (MT) of CH_4 is equal to 25 MT CO_2e.

Table 4.6-1 Global Warming Potentials and Atmospheric Lifetimes of Basic GHGs

GHG	Formula	100-year global warming potential[(1)]	Atmospheric lifetime (yrs)
Carbon dioxide	CO_2	1	Variable
Methane	CH_4	25	12
Nitrous oxide	N_2O	298	114

[(1)] The warming effects over a 100-year time frame relative to other greenhouse gases.
Source: USEPA 2015

Carbon Dioxide

Carbon dioxide (CO_2) enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions such as through the manufacturing of cement. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil and gas in power plants, automobiles, industrial facilities and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production and the use of petroleum-based products can also lead to CO_2 emissions. Carbon dioxide is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle. Natural sources of CO_2 occur within the carbon cycle where billions of tons of atmospheric CO_2 are removed from the atmosphere by oceans and growing plants, also known as 'sinks,' and are emitted back into the atmosphere annually through natural processes also known as 'sources.' When in balance, the total carbon dioxide emissions and removals from the entire carbon cycle are roughly equal. Since the Industrial Revolution in the 1700s, human activities, such as the burning of oil, coal and gas or deforestation, have increased CO_2 concentrations in the atmosphere (EPA 2016b). In 2013, global atmospheric concentrations of CO_2 were 43 percent higher than they were before the Industrial Revolution (GCP 2014).

Methane

Methane (CH_4) is emitted from a variety of both human-related and natural sources. Human-related activities include fossil fuel production, animal husbandry, rice cultivation, biomass burning, and waste management. CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills. It is estimated that 60 percent of global CH_4 emissions are related to human-related activities. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. CH_4 emission levels from a source can vary significantly from one country or region to another, depending on many factors such as climate, industrial and agricultural production characteristics, energy types and usage, and waste management practices. For example, temperature and moisture have a significant effect on the anaerobic digestion process, which is one of the key biological processes that cause CH_4 emissions in both human-related and natural sources. Also, the implementation of technologies to capture and utilize CH_4 from sources such as landfills, coal mines, and manure management systems affects the emission levels from these sources (USEPA 2016c).

Nitrous Oxide

Nitrous oxide (N_2O) is produced by both natural and human-related sources. N_2O is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. N_2O emission levels from a source can vary significantly from one country or region to another, depending on many factors such as industrial and agricultural production characteristics, combustion technologies, waste management practices, and climate. For example, heavy utilization of synthetic nitrogen fertilizers in crop production typically results in significantly more N_2O emissions from agricultural soils than that occurring from less intensive, low-

tillage techniques. Also, the presence or absence of control devices on combustion sources, such as catalytic converters on automobiles, can have a significant effect on the level of N_2O emissions from these types of sources (USEPA 2016d).

4.6.1.2 Regional Adverse Effects of Climate Change

The San Diego Foundation's Regional Focus 2050 Working Paper and Technical Assessment (Focus 2050) explored what the San Diego region will be like in 2050 if current climate change trends continue (San Diego Foundation 2008). The range of impacts presented in Focus 2050 are based on projections of climate change on the San Diego region using three climate models and two emissions scenarios drawn from those used by the Intergovernmental Panel on Climate Change (IPCC). A summary of the potential adverse effects of Climate Change on the San Diego region, as projected in Focus 2050, is provided below.

Climate

From observations and model historical simulations, it appears that temperatures began to warm more substantially in the 1970s. Some scientists attribute the change to the response to the effects of GHG accumulation, which began to increase substantially during this time. All of the climate model simulations exhibit warming across San Diego County, ranging from about 1.5 °F to 4.5 °F, with some differences in the timing and geographic distribution of the changes. The models predict greater warming during the summer than during winter, with surface air temperatures warming from 0.7 °F to more than 2 °F over that found during winter. Temperature changes for areas along the coast would be moderated by the influence of the Pacific Ocean, but interior areas, where the greatest population growth would occur, would experience the greatest temperature increase.

The months when San Diego County experiences the most extreme warm temperatures, currently in July and August, will likely begin in June and extend until September. It is estimated that the inland portion of the county may have more than a threefold increase in hot days in 2050. Experts generally conclude that rainfall will continue to vary widely from year to year, leaving San Diego County highly vulnerable to drought.

Sea Level

If current climate change trends continue, rising sea levels will have a major impact on the San Diego region's environment and economy, particularly in coastal areas. When high tide occurs during a large storm, particularly in El Niño winters, flooding will threaten homes, businesses, and hotels in low-lying coastal communities such as Imperial Beach, Coronado, Mission Beach, La Jolla Shores, Del Mar, and Oceanside. Flooding may also impact military, port and airport operations. High surf events will last for more hours, with waves causing even greater coastal erosion and related damage. Rising sea levels will wear away the foundations of sea bluffs, such as those found in Solana Beach, and significantly change the county coastline. Sandy beaches and nearby wetlands serve as barriers to protect coastline developments from high surf. As these areas shrink from more intense wave activity, there may be a greater need for beach sand replenishment. More seawalls and breakwaters may need to be built to defend homes and businesses from coastal flooding. In addition to being extremely costly, these structures will destroy beaches and wetlands that do not have space to shift inland. Wetlands and estuaries could be devastated, leaving beaches exposed to more pollutants that endanger human and marine life.

Water Supply

SDCWA predicts an increase in water demand for San Diego County of around 20 percent, from 648,030 acre-feet per year (AFY) (the 2005-2010 average) to about 785,685 AFY in 2035. About 84 percent of this demand is expected to come from imported sources (SDCWA 2010). By 2050, the expected demand will increase to 915,000 AFY, which is an increase of 41 percent over the 2005-2010 period. By 2050, about 80 percent of the water supply is expected to be imported.

Drought years, which have historically increased water demand by another 7 percent, might occur as much as 50 percent as often and be considerably drier. In drought years, parched soil soaks up more surface water and groundwater, increasing the need for imported and other water supplies. At the same time that the county demand for water would increase, climate change could shrink the Colorado River flow (a major source of imported water for the county) by 20 percent or more. A decline in the Sierra Nevada snowpack, aggravated by increased temperatures, could impact the water flow of many northern California rivers which serve as primary sources of water to the California Aqueduct, a major source of imported water for the county. San Diego's water supply plans are likely to be severely challenged by climate change. Even with plans in place to conserve, recycle, and augment our available water, it is estimated San Diego County could face an 18 percent shortfall in water supply by 2050 (San Diego Foundation 2008).

Wildfires

Fire occurrence has steadily increased in southern California, in direct proportion to human population growth as most ignitions are caused by human activities. Most fires start during the summer, when coastal sage and chaparral vegetation have dried to a highly flammable state. Fires that start during the fall, however, burn many more acres because flames are intensified and spread by hot, dry Santa Ana winds. It is not entirely clear from climate change models how Santa Ana conditions will affect San Diego regional fire regimes in the future. Some models predict a decrease in the frequency and intensity of Santa Ana conditions while others predict an increase, particularly during the fire season. If Santa Ana conditions increase significantly earlier in the fire season, this shift could increase the incidence of massive Santa Ana fires, because the winds will begin gusting during the time of year when most fires start. More frequent fires would threaten native plant species by not allowing sufficient recovery time before they burn again. This would allow weedy, non-native species, which thrive in post-fire conditions, to multiply. Weedy invaders dry out earlier in the year, catch fire more easily, and burn faster than native plants.

Additionally, if current trends continue, the San Diego region will experience a population increase, with more development and human activities in backcountry areas over the coming decades. As a result of climate change, we can expect higher spring temperatures, scorching summers, drier vegetation, and longer fire seasons. A simultaneous occurrence of all of these factors will increase the likelihood of more devastating firestorms similar to those that destroyed many homes and lives in the unincorporated county during 2003 and 2007.

Ecosystems

San Diego County beaches, canyons, mountains and deserts support a vast variety of plants and animals, some of which are found nowhere else on the planet. This biodiversity is already under stress from human population growth and land use changes that have broken up and reduced species habitat into fragmented areas. The impacts of climate change will add to the pressures on habitats and the species

that live in the county. As a result, the locations where the temperature, moisture, and other environmental conditions are suitable for a particular species will shift. Plant and animal species are generally able to adapt to shifting habitats, but under existing trends, climate change would occur so rapidly that ecological conditions may shift faster than species are able to follow. To survive, some animals and plants will have to move up to 95 miles over the next century to find new habitat or they will face extinction. Drought and unusually warm years have already led to growing insect populations, such as bark beetles, which have attacked and killed drought-stressed trees in San Diego County. With warmer weather, the county's forests will lose even more trees. Ecological changes will cascade, as the loss of one species will challenge the ability of other species up and down the same food chain to survive. Top predators like coyotes may be lost if habitat patches become too small or isolated, and that can lead to an increase in smaller predators that prey on native songbirds.

Public Health

Increased heat, air pollution, wildfires, and infectious disease will cause illness and death in San Diego County, especially among the elderly, children, and the chronically ill. Californians experience the worst air quality in the nation, and San Diego is currently out of compliance with the federal ozone standard. By 2050, more hot sunny days will increase ozone air pollution levels, which can exacerbate asthma and other respiratory and cardiovascular diseases. Fire-related injuries and death are likely to increase as intense wildfires occur more frequently. Wildfires can also be a significant contributor to air pollution. Wildfire smoke contains numerous toxic and hazardous pollutants that are dangerous to breathe and can worsen lung disease and other respiratory conditions.

Warmer temperatures year-round could lead to growing mosquito populations, increasing the occurrence of West Nile Virus in the San Diego region. Hot weather could also bring tropical diseases such as malaria and dengue fever to the region for the first time. In coastal waters, conditions are likely to favor more frequent "red tides" or harmful algal blooms, which can harbor toxic bacteria and other diseases. In 2050, with an aging population and more residents living in areas with extreme-heat conditions and poor air quality, the San Diego region will face intensified public health concerns.

Energy Needs

If current climate change trends continue, warmer temperatures and a growing population will translate into big challenges for the San Diego region's energy supply by 2050. The main impact will be higher demand for electricity as a result of the greater need for summer cooling, especially in inland areas where both regional population growth and temperature increases will be highest. Hotter summers and more frequent, longer and intense heat waves will increase peak demand for electricity, which could result in blackouts and power outages without adequate planning.

4.6.1.3 Global, National, Statewide, Countywide, and OWD GHG Inventories

In an effort to evaluate and reduce the potential adverse impact of global climate change, international, state and local organizations have conducted GHG inventories to estimate their levels of GHG emissions and removals. The following summarizes the results of these global, national, state and countywide GHG inventories. In 2008, a carbon footprint assessment was prepared for OWD, using data from recent years

to obtain average annual emissions of GHG (ICF 2008). This GHG inventory serves as the baseline for the proposed project.

Global

Worldwide anthropogenic GHG emissions in 2010 were approximately 49,000 million metric tons (MMT) CO_2e, including ongoing emissions from industrial and agricultural sources and emissions from land use changes (i.e., deforestation, biomass decay). CO_2 emissions from fossil fuel use and industrial processes accounts for 65 percent of the total emissions of 49,000 MMT of CO_2e (which includes land use changes) and all CO_2 emissions are 77 percent of the total. CH_4 emissions account for 16 percent and N_2O emissions for 6 percent of GHG (IPCC 2014).

The Global Carbon Project releases an annual update of the global carbon budget and trends. According to the Carbon Budget and Trends 2014 update (GCP 2014), the atmospheric carbon dioxide concentration in 2013 was 395 parts per million (ppm), 43 percent above the concentration at the start of the Industrial Revolution (about 277 ppm in 1750). The present concentration is the highest during the last 800,000 years. The annual growth rate of atmospheric carbon dioxide was 2.53±0.09 ppm in 2013, significantly above the average growth rate of the past 10 years (2004-2013). For comparison, the average growth rate was 1.5±0.1 ppm for the decade 1990-1999, and was 1.6±0.1 ppm for the decade 1980-1989.

United States

The EPA publication, *Draft Inventory of U.S. GHG Emissions and Sinks: 1990-2013,* provides a comprehensive emissions inventory of the nation's primary anthropogenic sources and sinks of GHGs. In 2013, total U.S. GHG emissions were 6,673 MMT CO_2e. Overall, total U.S. emissions had risen by 2.0 percent from 2012 to 2013. The increase from 2012 to 2013 was due to multiple factors including increased emissions from electricity generation, an increase in miles traveled by on-road vehicles, an increase in industrial production and emissions in multiple sectors, and year-to-year changes in the prevailing weather (EPA 2015).

California

In 2013, California's total GHG emissions were 459.28 MMT CO_2e, which is a 0.3 percent decrease from 2012 and a 2.0 percent decrease from 2000 levels (ARB 2015a). During the 2000 to 2013 period, GHG emissions per capita have decreased from a peak in 2001 of 14.0 tonnes per person to 12.0 tonnes per person in 2013, which is a 14 percent decrease. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy is declining, representing a 23 percent decline since the 2001 peak (ARB 2015b).

San Diego County

The University of San Diego School of Law Energy Policy Initiatives Center prepared a detailed regional GHG inventory for San Diego County that considers the unique characteristics of the region in calculating emissions. According to the San Diego County GHG Inventory (USDSL 2013), San Diego County GHG emissions were 32 million MT CO_2e in 2010, which represents a 9 percent increase from 1990 levels. Table 4.6-2 summarizes San Diego County GHG emissions by category. As shown in this table, on-road transportation was the largest contributor to San Diego County GHG emissions, followed by electricity and natural gas end uses.

Table 4.6-2 County of San Diego GHG Emissions by Category (2010)

Sector	Total Emissions (MMT CO_2e)	Percent of Total Emissions
On-Road Transportation	14.4	43
Electricity	8.3	24
Natural Gas End Uses	2.9	9
Industrial Processes and Products	1.8	5
Civil Aviation	1.9	6
Water-Borne Navigation	0.1	<1
Off-Road Equipment and Vehicles	1.4	4
Rail	0.3	1
Waste	0.6	2
Other Fuels (Propane, Kerosene, Wood, etc.)/Other	1.6	4
Agriculture/Forestry/Land Use	0.4	1
Total	32	100

Note: Numbers may not total to 100 percent due to rounding
Source: Energy Policy Initiative Center, University of San Diego School of Law, 2013

Otay Water District

OWD completed an inventory of their GHG emissions, which calculated direct and indirect emissions of the GHGs emitted by the OWD in the years 2006 and 2007 (ICF 2008). Sources of GHGs include direct emissions produced on OWD property, including stationary combustion sources (boilers, heaters, and emergency generators), mobile sources (OWD-owned vehicles), water reclamation, and refrigeration, and indirect emissions from consumption of electricity. GHG emissions at the OWD are dominated by three pollutants, including CO_2 from the combustion of fossil fuels, CH_4, most of which is associated with the water reclamation plant, and N_2O, which is emitted in small amounts from combustion and water reclamation processes. The GHG inventory found that OWD emits an average of 14,833 MT CO_2e in GHG per year when considering both direct and indirect emission sources (Table 4.6-3). Electricity usage represents about half of the total (51 percent), followed by water reclamation (30 percent), stationary sources (14 percent), and mobile sources (5 percent).

Table 4.6-3 Average Annual OWD GHG Emissions (2006-2007)

Source	Annual Emissions (metric tons)			
	CO_2	CH_4	N_2O	CO_2e
Indirect Sources				
Electricity Usage	7,573	0.3	0.1	7,604
Direct Sources				
Stationary	2,044	0.2	0.3	2,102
Mobile	753	0.01	0.01	756
Water Reclamation	N/A	210	0.05	4,422
Total Direct	2,757	210	0.4	4,099
Total Indirect and Direct	10,330	210	0.4	14,883

Source: ICF 2008

4.6.2 Regulatory Framework

4.6.2.1 Federal

EPA Endangerment Finding and Cause or Contribute Finding

In 2009, the Administrator of the EPA found in its Endangerment Finding that GHGs in the atmosphere threaten the public health and welfare of current and future generations. The Administrator also found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare. Although the Endangerment Finding does not place requirements on industry, it is an important step in the EPA's process to develop regulations. This action was a prerequisite to finalizing the EPA's proposed GHG emission standards for light-duty vehicles, which were finalized in May 2010. In the EPA's Cause or Contribute Finding the Administrator found that the combined emissions of these well-mixed GHG from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

4.6.2.2 State

Assembly Bill 32

In September 2006, the California State Legislature adopted Assembly Bill (AB 32), the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing GHG in California. GHG as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Under AB 32, California ARB has the primary responsibility for reducing GHG emissions and continues the California Climate Action Team (CCAT) to coordinate statewide efforts and promote strategies that can be undertaken by many other California agencies. AB 32 requires the ARB to adopt rules and regulations that would achieve greenhouse gas emissions equivalent to state-wide levels in 1990 by 2020.

In general, AB 32 directs the ARB to do the following:

- Make publicly available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit;
- Make publicly available a GHG inventory for the year 1990 and determine target levels for 2020;
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures;
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and non-monetary incentives that reduce GHG emissions from any sources or categories of sources that ARB finds necessary to achieve the statewide GHG emissions limit; and

- Monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

Regarding the first two bullets, ARB has already made available a list of discrete early action GHG emission reduction measures. ARB has also published a staff report titled *California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit* that determined the statewide levels of GHG emissions in 1990. ARB identified 427 million MT CO_2e as the total statewide aggregated greenhouse gas 1990 emissions level and 2020 emissions limit. Additionally in December 2008, the ARB adopted the Climate Change Scoping Plan, which outlines the state's strategy to achieve the 2020 GHG limit. This scoping plan proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve the environment, reduce dependence on oil, diversify energy sources, save energy, create new jobs, and enhance public health. The plan emphasizes a cap-and-trade program, but also includes the discrete early actions.

The first update to the Scoping Plan was adopted in May 2014. The first update identifies opportunities for GHG reductions using existing and new funding sources, defines ARB's climate change priorities for the next five years, and establishes the plan for meeting the long-term goals of Executive Order S-3-05. The Update highlights California's progress toward meeting the 2020 GHG emission reduction goals defined in the initial Scoping Plan and evaluates GHG reduction strategies may be aligned with other state priorities for water, waste, natural resources, clean energy, transportation, and land use. According to the plan, California is on track to meet the 2020 GHG emission reduction goal.

Executive Order S-3-05

Executive Order S-3-05, signed by Governor Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions by 2050. Executive Order S-05-05 also mandates the preparation of biennial science assessment reports on climate change impacts and adaptation options for California. The CCAT report to the Governor in 2006 contains recommendations and strategies to help ensure the targets in Executive Order S-3-05 are met.[1]

The latest CCAT Biennial Report was released in 2010. It expands on the policy oriented 2006 assessment. This report provides new information and scientific findings. The new information and details in the CCAT Assessment Report include development of new climate and sea-level projections using new information and tools that have become available, and evaluation of climate change within the context of broader social changes such as land-use changes and demographic shifts (CCAT 2010). The action items in the draft report focus on the preparation of the Climate Change Adaptation Strategy required by Executive Order S-13-08.

Senate Bill 97

Senate Bill (SB) 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs the California Office of Planning and Research (OPR) to develop draft CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" by July 1, 2009 and directs the Resources Agency to certify and adopt the CEQA Guidelines by January 1, 2010. As directed by SB 97, the Natural Resources Agency adopted

[1] State of California, Environmental Protection Agency, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger and the California Legislature*, March 2006.

Amendments to the CEQA Guidelines for GHG emissions in 2009. In 2010, the Office of Administrative Law approved the Amendments, which became effective that same year.

Senate Bill 375

SB 375 provides for a new planning process that coordinates land use planning, regional transportation plans (RTPs), and funding priorities to help California meet the GHG reduction goals established in AB 32. SB 375 requires RTPs developed by metropolitan planning organizations (MPOs) to incorporate a sustainable communities strategy (SCS) in their plans. The goal of the SCS is to reduce regional vehicle miles traveled (VMT) through land use planning and consequent transportation patterns. SB 375 also includes provisions for streamlined CEQA review for some infill projects, such as transit-oriented development.

Senate Bill 350

SB 350 builds upon existing standards by increasing the Renewables Portfolio Standard to 50 percent by 2030 and increasing energy efficiency in buildings by 50 percent by 2030. Existing law establishes the California Renewables Portfolio Standards Program, which is codified in the Public Utilities Act, with the target to increase the amount of electricity generated per year from eligible renewable energy resources to an amount that equals at least 33 percent of the total electricity sold to retail customers per year by December 31, 2020. SB 350 increases this target to 50 percent by December 31, 2030.

4.6.2.3 Local

San Diego Association of Governments

San Diego Association of Governments (SANDAG) is the council of governments and transportation planning agency for San Diego County and the 18 cities located within its territory. SANDAG is responsible for cooperative regional planning and furthering an efficient multi-modal transportation system countywide. As the MPO and Regional Transportation Planning Agency (RTPA), SANDAG supports freeway construction projects, regional and local road improvements, train and bus transportation, railroad crossings, call boxes, ridesharing, congestion management efforts and long-term planning studies.

Per SB 375, ARB set the following regional greenhouse gas emission reduction targets for SANDAG:

- 7 percent reduction from the 2005 per capita amount by 2020
- 13 percent reduction from the 2005 per capita amount by 2035

SANDAG adopted the San Diego Forward: The Regional Plan (Regional Plan) on October 9, 2015. This Regional Plan is the most recent regional transportation plan for the project area; it integrates the Regional Transportation Plan, the Sustainable Communities Strategy, and the Regional Comprehensive Plan into one document. The Regional Plan identifies how greenhouse gas emissions from passenger vehicles are projected to reach 15 percent by 2020 and 21 percent by 2035. ~~subsequently adopted the 2050 RTP/SCS to help California meet its climate goals and the requirements of SB 375. The 2050 RTP/SCS demonstrates a reduction in per capita GHG emissions of 14 percent by 2020 and 13 percent by 2035.~~

4.6.3 Project Impacts and Mitigation

4.6.3.1 Issue 1 – Generation of Greenhouse Gases Emissions

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update, would include, but would not be limited to, the following SCP to reduce potential impacts associated with the generations of GHGs.

Air-SCP-3 During project construction activities, the CIP Project Construction Manager will supervise the following BMPs to reduce emissions associated with diesel equipment:

i. Properly operate and maintain all diesel-powered vehicles and equipment.
ii. Retrofit diesel-powered equipment with “after-treatment” products (e.g., diesel oxidation catalysts, diesel particulate filters).
iii. Use electric or natural gas-powered construction equipment in lieu of gasoline or diesel-powered engines.
iv. Turn off all diesel-powered vehicles and gasoline-powered equipment when not in use for more than five minutes.
v. Support and encourage ridesharing and transit incentives for the construction crew.
vi. Encourage the use of locally available building materials, such as concrete, stucco, and interior finishes.
vii. Use light-colored or a high-albedo (reflectivity) concrete and asphalt paving materials with a Solar Reflectance Index of 29 or higher.
viii. Establish a construction management plan with the local waste hauler that diverts a minimum of 50% of construction, demolition, and site clearing waste.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant adverse impact if it would result in the generation of GHGs, either directly or indirectly, that may have a significant impact on the environment.

Note that the CEQA Guidelines do not quantify the amount of GHG emissions that would constitute a significant impact on the environment. Instead, they leave the determination of the significance of GHG emissions up to the lead agency, and authorize the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts (CEQA Guidelines Sections 15064.4(a) and 15064.7(c).)

Specifically, CEQA Guidelines Section 15064.7(c) states, "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

OWD utilizes the thresholds of significance adopted by the County of San Diego in November 2013 to determine whether the GHG emissions from a project may have a significant impact on the environment.

The County's Guidelines for Determining Significance for Climate Change are based on regional data including the incorporated cities and therefore may be used by lead agencies in the region other than the County of San Diego. The purpose of the guidelines is to ensure that new development in San Diego County achieves its fair share of emissions reductions needed to meet the statewide AB 32 mandate (County 2012).

The County's guidelines establish a screening level threshold for annual emissions of 2,500 MT CO_2e. Projects that would emit less than 2,500 MT CO_2e are considered to have insignificant emissions and would not affect the region's ability to meet reduction goals. This screening level applies separately to both construction and operation. Therefore, projects that result in emissions that are below this screening level would not result in significant GHG emissions and no further analysis is required.

Impact Analysis

Construction Emissions

Construction of CIP projects proposed under the 2015 WFMP Update would result in temporary emissions of GHGs from the operation of construction equipment and from worker and building supply vendor vehicles. A full list of the CIP projects are listed in Tables 3-1 through 3-4 of Chapter 3 (Project Description). Equipment that would be associated with construction of the proposed CIP projects would likely include site preparation, trenching, grading, and paving activities. These activities may include the use of excavators, industrial saws, pavers, rollers, dozers, graders, tractors, and scrapers. At this time, many of the CIP projects under the 2015 WFMP Update are still in the design phase, and as such, information regarding the number and type of construction equipment required and the duration of construction activities is still unknown. The construction emissions inventory cannot be reasonably quantified at this time. The construction of CIP projects proposed under the 2015 WFMP Update may result in construction emissions above the annual 2,500 MT CO_2e county threshold and impacts may be significant.

Operational Emissions

Operational GHG emissions from the CIP projects would include indirect emissions from electricity usage, and direct emissions from mobile (vehicle trips associated with project maintenance), stationary sources (fuel combustion from emergency generators). Of the proposed CIP projects, the only projects that may generate stationary operational GHG emissions would be pump stations. It is assumed that pipeline projects, groundwater wells, and storage projects, once constructed, would not require substantial demands of electricity, or require the use of emergency generators, or any other fuel-consuming operating equipment. A list of the pump station projects are shown in Table 3-2 (Chapter 3, Project Description) of this PEIR.

The 2015 WFMP Update proposes construction of twelve new pump stations: two within Phase II, six within Phase IIIA, and four within Phase IIIB. Mobile sources of GHG emissions for the CIP Projects would be primarily associated with vehicular trips by employees. However, operation of CIP projects proposed under the 2015 WFMP Update would not generate a significant volume of new vehicle trips. The only source of stationary GHG emissions would be from diesel-fueled standby emergency generators. Standby generators are not used frequently or for extended durations, and are only tested once per month for a period of less than one hour. GHG emissions from mobile and stationary sources would be marginal. The largest source of GHG emissions would be indirect GHG emissions resulting from electricity usage to power the pump stations. Due to state legislation such as SB 350, electricity will continue to become

increasingly efficient as the California Renewables Portfolio Standards Program increases the electricity generated by renewable energy. Indirect GHG emissions from electricity usage to power pump stations would be unlikely to exceed the 2,500 MT CO_2e county threshold and would likely decrease over time. As such, potential impacts due to the operational GHG emissions would be less than significant.

Mitigation/Performance Measures

Construction GHG emissions of CIP projects proposed under the 2015 WFMP Update may result in construction emissions above the 2,500 MT CO_2e county threshold. The construction emissions can be mitigated below the threshold by emplacing an annual cap on construction equipment activity.

In order to determine the magnitude of construction activity that would exceed the 2,500 MT CO_2e county threshold, the California Emissions Estimator Model (CalEEMod, version 2013.2.2) was used to estimate greenhouse gas emissions for construction activity. The CalEEMod 2013.2.2 model uses OFFROAD2011 for construction equipment. For the purposes of analysis, the land use assumed in the model was 100 acres of user-defined industrial. Emissions were estimated for the year 2017 to represent an annual GHG construction inventory. Site preparation, trenching, grading, and paving activities were assumed. Construction equipment assumptions are shown below in Table 4.6-4.

Table 4.6-4 CalEEMod Construction Activity Assumptions

Equipment Type	Number of Equipment	Hours/Day	Total Days of Use	Horsepower	Annual Horsepower-Hour
Site Preparation Activity					
Rubber Tired Dozers	4	8	217	255	1,770,720
Tractors/Loaders/Backhoes	4	8	217	97	673,568
Trenching Activity					
Concrete/Industrial Saws	3	8	260	81	505,440
Excavators	3	8	260	162	1,010,880
Rubber Tired Dozers	3	8	260	255	1,591,200
Grading Activity					
Excavators	2	8	260	162	673,920
Graders	2	8	260	170	723,840
Scrapers	2	8	260	361	1,501,760
Rubber Tired Dozers	2	8	260	255	1,060,800
Tractors/Loaders/Backhoes	2	8	260	97	403,520
Paving Activity					
Pavers	2	8	260	125	520,000
Paving Equipment	2	8	260	130	540,800
Rollers	2	8	260	80	332,800
Total					11,309,248

Source: CalEEMod 2013.2.2.

The annual GHG emissions from the construction activity listed above would result in approximately 2,499 MT CO_2e, which is just below the threshold. In other words, a construction scenario of approximately 11,300,000 annual horsepower-hours would result in a less-than-significant impact.

If the construction of CIP projects proposed under the 2015 WFMP Update would have equal or reduced construction activity as compared to the analyzed scenario, the construction GHG emissions would be below the county significance threshold and potential impacts would be less than significant with the applied mitigation.

Implementation of the following mitigation measure would reduce potential impacts from construction GHG emissions to less than significant.

GHG-1 Otay Water District will prepare annual construction activity estimates prior to undertaking the first construction activity of any year. The annual construction estimate shall demonstrate that the annual construction equipment use will be less than or equal to the activity shown in Table 4.6-4 of this PEIR.

Operational GHG emissions would be unlikely to exceed the 2,500 MT CO_2e county threshold and potential impacts would be less than significant; therefore, no mitigation is required for operational activities.

4.6.3.2 Issue 2 – Conflicts with Applicable Plan, Policy, or Regulation

Project Design Features/Standard Construction Practices

The PDFs/SCPs for Issue 1, listed above in Section 4.6.3.1, would apply to Issue 2 as well.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant adverse impact if it would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHGs.

The applicable policy adopted for the purposed of reducing GHG emissions is AB 32. The purpose of the County's Guidelines for Determining Significance for Climate Change is to ensure that new development in San Diego County achieves its fair share of emissions reductions needed to meet the statewide AB 32 mandate. Therefore, a project that will result in a less than significant impact under the county threshold will not conflict with AB 32.

Impact Analysis

As demonstrated under Section 4.6.3.1 (Issue 1), construction of the 2015 WFMP Update CIP projects may exceed the county threshold without mitigation. However, operational GHG emissions are unlikely to exceed the CEQA screening level threshold of 2,500 MT CO_2e. Therefore, this impact will be potentially significant.

Mitigation/Performance Measures

Mitigation Measure GHG-1 would mitigate construction GHG emissions to less than significant levels. Mitigation for operational activities is not required.

4.6.4 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2015 WFMP Update

Would implementation of the 2015 WFMP Update generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction of CIP projects under the 2015 WFMP Update may have a significant impact on the environment. Mitigation measures GHG-1 would reduce impacts to less than significant levels. Operation of the CIP projects may result in less than significant impacts and no mitigation is required.

Would implementation of the 2015 WFMP Update conflict with any applicable plan, policy, or regulation adopted for the purposes of reducing the emissions of greenhouse gases?

Construction of CIP projects under the 2015 WFMP Update may conflict with AB 32. Mitigation measures GHG-1 would reduce impacts to less than significant levels according to the county thresholds. Operation of the CIP projects may result in less than significant impacts and would not conflict with AB 32, per the county thresholds.

4.6.5 References

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4.7 Hydrology and Water Quality

This section of the PEIR for the 2015 WFMP Update describes existing conditions within the planning area with respect to hydrology and water quality; the potential physical environmental effects (direct, indirect, and/or cumulative) related to these issues resulting from development of CIP projects under the 2015 WFMP Update; and the project design features, standard construction practices, and mitigation/ performance measures to reduce or avoid the identified impacts.

4.7.1 Environmental Setting

4.7.1.1 Hydrology

The majority of the planning area is located within the following three watersheds (also known as hydrologic units): Tijuana, Otay, and Sweetwater (Figure 4.7-1). The San Diego Hydrologic Unit traverses the northernmost corner of the planning area. These hydrologic units are located within the San Diego Region Hydrologic Basin, and with the exception of the Otay Hydrologic Unit, are bound by the Pacific Ocean on the west and the Anza Borrego Hydrologic Unit on the east. A description of the hydrologic units encompassing the planning area follows.

Tijuana Hydrologic Unit

The southernmost portion of the planning area, including the majority of the Otay Mesa System, is within the Tijuana Hydrologic Unit (Figure 4.7-1). In its entirety, this hydrologic unit covers approximately 470 square miles, with most of this area in eastern San Diego County. It is further divided into eight hydrologic areas: Tijuana Valley, Portero, Barrett Lake, Monument, Morena, Cottonwood, Cameron, and Campo. Major drainages of this hydrologic unit include the Cottonwood and Campo creeks, which are tributaries of the Tijuana River. The annual average precipitation throughout this hydrologic unit ranges between 11 inches in the coastal region and more than 25 inches in the inland region. Runoff from this hydrologic unit discharges to Morena Reservoir, Barrett Lake, or the Pacific Ocean. This hydrologic unit also contains the Tijuana Estuary, a 2,000-acre salt water marsh that has highly saline conditions and has many outlets to the Pacific Ocean. Surface water quality has been adversely affected by runoff coming across the border from Mexico; ground water quality has been affected by seawater intrusion and waste discharges in both the U.S. and Mexico.

Otay Hydrologic Unit

Portions of the Central Area System and the Regulatory System within the planning area are located within the Otay Hydrologic Unit (Figure 4.7-1). This hydrologic unit spans from the Pacific Ocean in the west to central San Diego County in the east, encompassing a total area of approximately 160 square miles. The Otay Hydrologic Unit is one of the three county watersheds that discharge to San Diego Bay (County 2007). The watershed consists largely of unincorporated area, but also includes portions of the cities of Chula Vista, Imperial Beach, Coronado, National City, and San Diego. It also contains the Coronado, Otay, and Dulzura hydrologic areas. The only major drainage of this hydrologic unit is the Otay River, although it is also drained by small tributaries of the Otay River. The annual average precipitation throughout this hydrologic unit ranges between 11 and 19 inches. Runoff from this hydrologic unit drains primarily into the Lower Otay Reservoir.

Sweetwater Hydrologic Unit

Eastern portions of the Central Area System, Regulatory System, and the entire La Presa System within the planning area are located within the Sweetwater Hydrologic Unit (Figure 4.7-1). This hydrologic unit covers approximately 230 square miles, and is long and narrow in shape. It encompasses the Lower Sweetwater, Middle Sweetwater, and Upper Sweetwater hydrologic areas. The major drainage that spans the length of this hydrologic unit is the Sweetwater River. The annual average precipitation throughout this hydrologic unit ranges between less than 11 inches in the coastal region to approximately 35 inches in the inland region.

Flood Hazards

Flood hazards include direct flooding due to overtopping of nearby rivers or streams, or secondary flooding due to seismic activity. Based on review of the San Diego County Flood Plains Map (County 2011), portions of the planning area are within the 100-year floodplain or floodway (Figure 4.7-2).

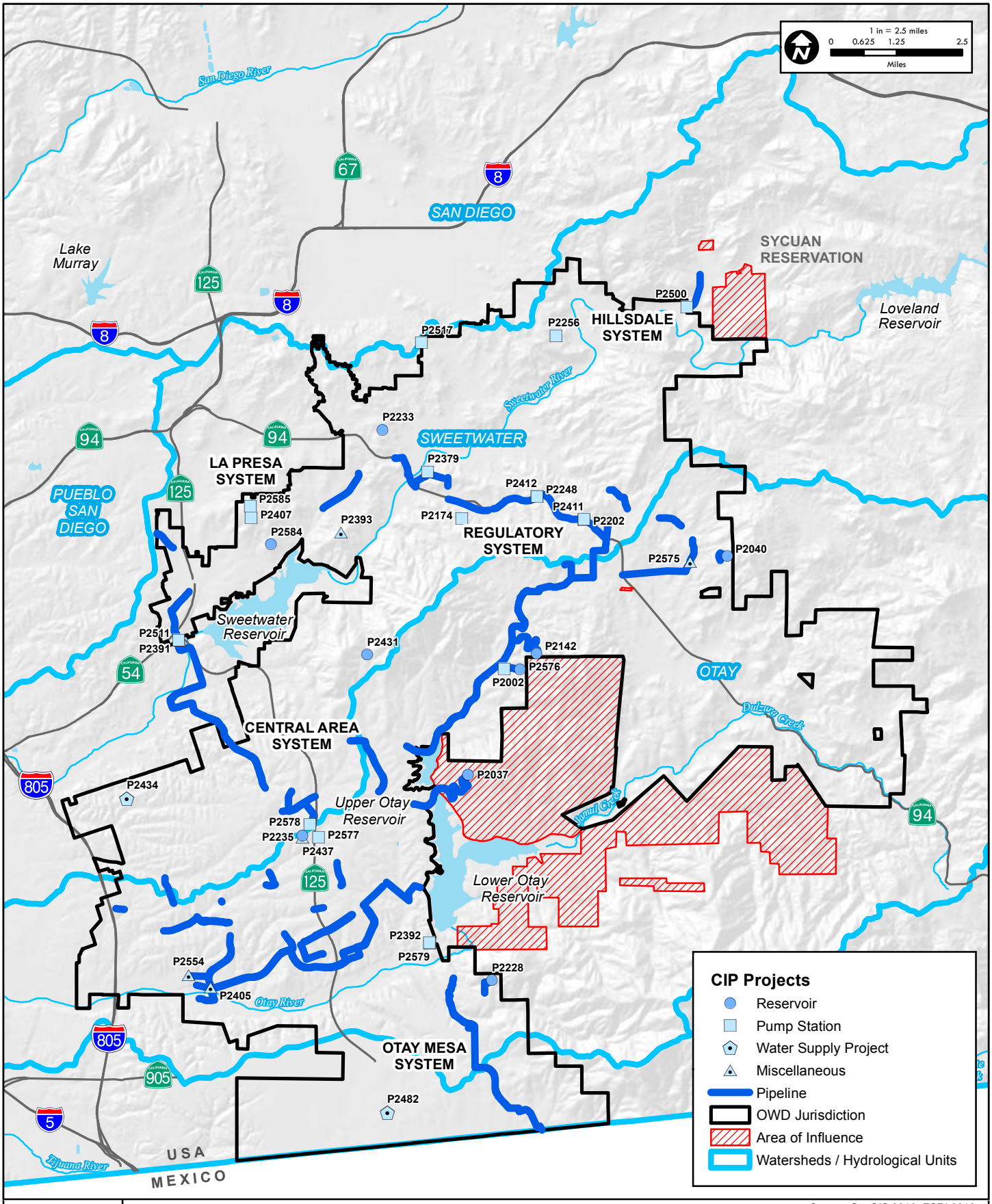
Seismic activity could potentially generate secondary flooding due to tsunamis or seiches. Tsunamis are open sea waves generated by submarine earthquakes. Such earthquakes cause vertical motions of the earth's crust under the sea resulting in displacement of the overlying water mass and long-period oceanic waves that can travel hundreds of miles. As they approach the coast, the waves amplify as their length becomes shorter and often run up the shore in the form of bores and surges. In general, tsunamis rarely become large and towering waves that break large distances (over five miles) inland; more often they break far offshore and are never visible from mainland areas. Due to the large distance between the westernmost point of the planning area (approximately five miles) and the Pacific Ocean, the potential for tsunamis is not expected to result in a flood hazard to existing OWD facilities. Also seismically induced, a seiche is classified as the sloshing of water in a large enclosed basin, such as a lake, reservoir, bay, or channel. Several large reservoirs are adjacent to the planning area, including the Sweetwater, Upper Otay, and Lower Otay reservoirs (refer to Figure 3-2 of this PEIR); however, there has never been a record of any seiche events occurring at these reservoirs.

4.7.1.2 Surface Water Quality

A "beneficial use" is defined as a use by which water provides advantages for people and/or wildlife, and therefore can function as a water quality indicator. Present or potential beneficial uses of surface waters within the Tijuana, Otay, and Sweetwater hydrologic units include municipal and domestic supply, agricultural supply, industrial service supply, industrial process supply, contact water recreation, non-contact water recreation, preservation of biological habitats of special significance, warm freshwater habitat, cold freshwater habitat, wildlife habitat, rare, threatened, or endangered habitat, and spawning, reproduction, and/or early development. The Tijuana Hydrologic Unit also includes the following beneficial uses: freshwater replenishment and hydropower generation. Table 4.7-1 provides definitions for each of these beneficial uses.

4.7.1.3 Groundwater

The planning area includes the Lower and Middle Sweetwater groundwater basins (collectively known as the Sweetwater Basins), and the Otay Valley groundwater basin (Figure 4.7-3). As shown in this figure, the San Diego Formation groundwater basin is adjacent to the west of the planning area, and could be affected by activities within the planning area where groundwater flows in an east-to-west direction.



Source: SanGIS 2016, ESRI 2016

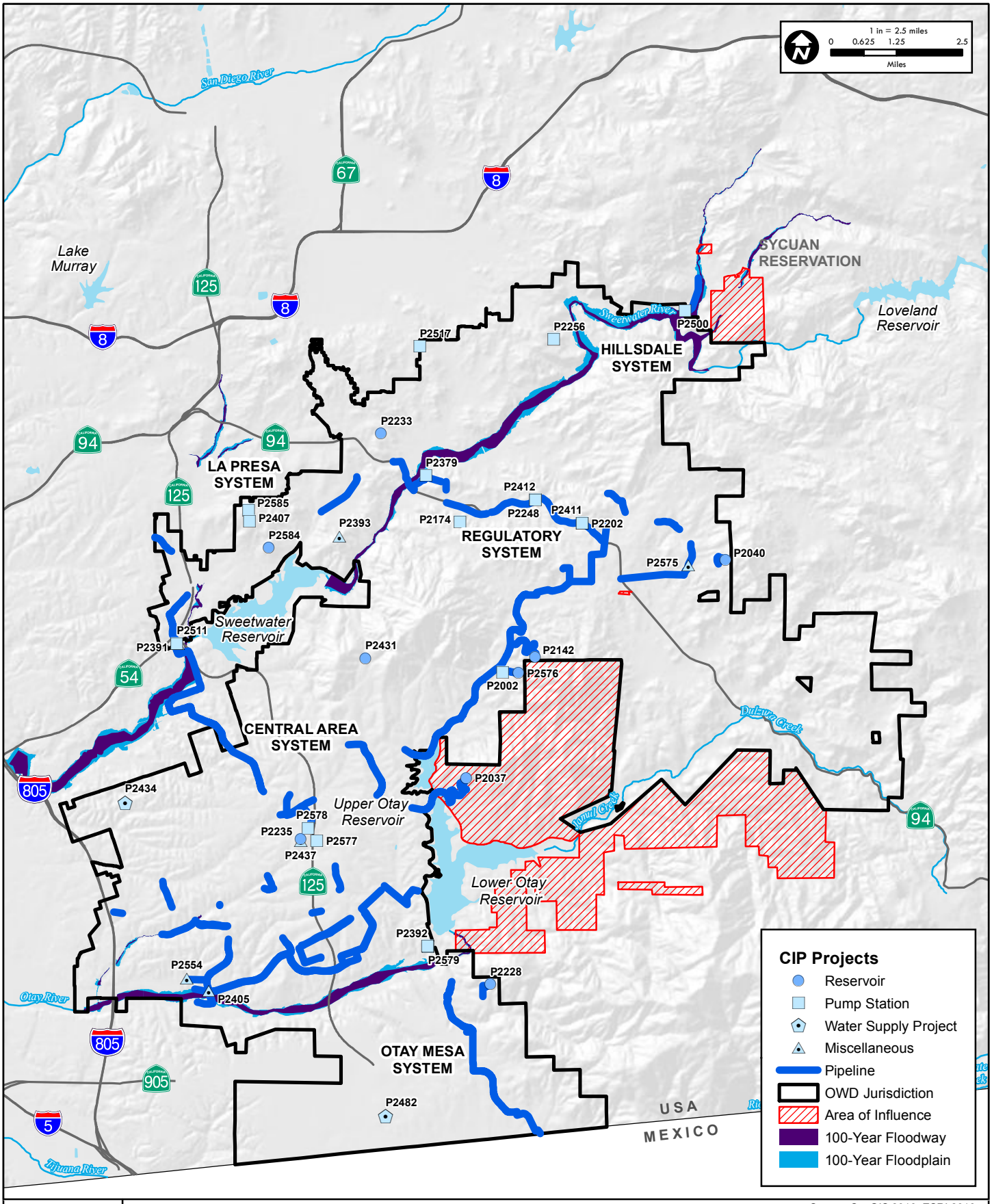
ATKINS

Figure 4.7-1

County Hydrologic Units

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.7-1 Hydrologic Units.mxd



Source: SanGIS 2016, ESRI 2016

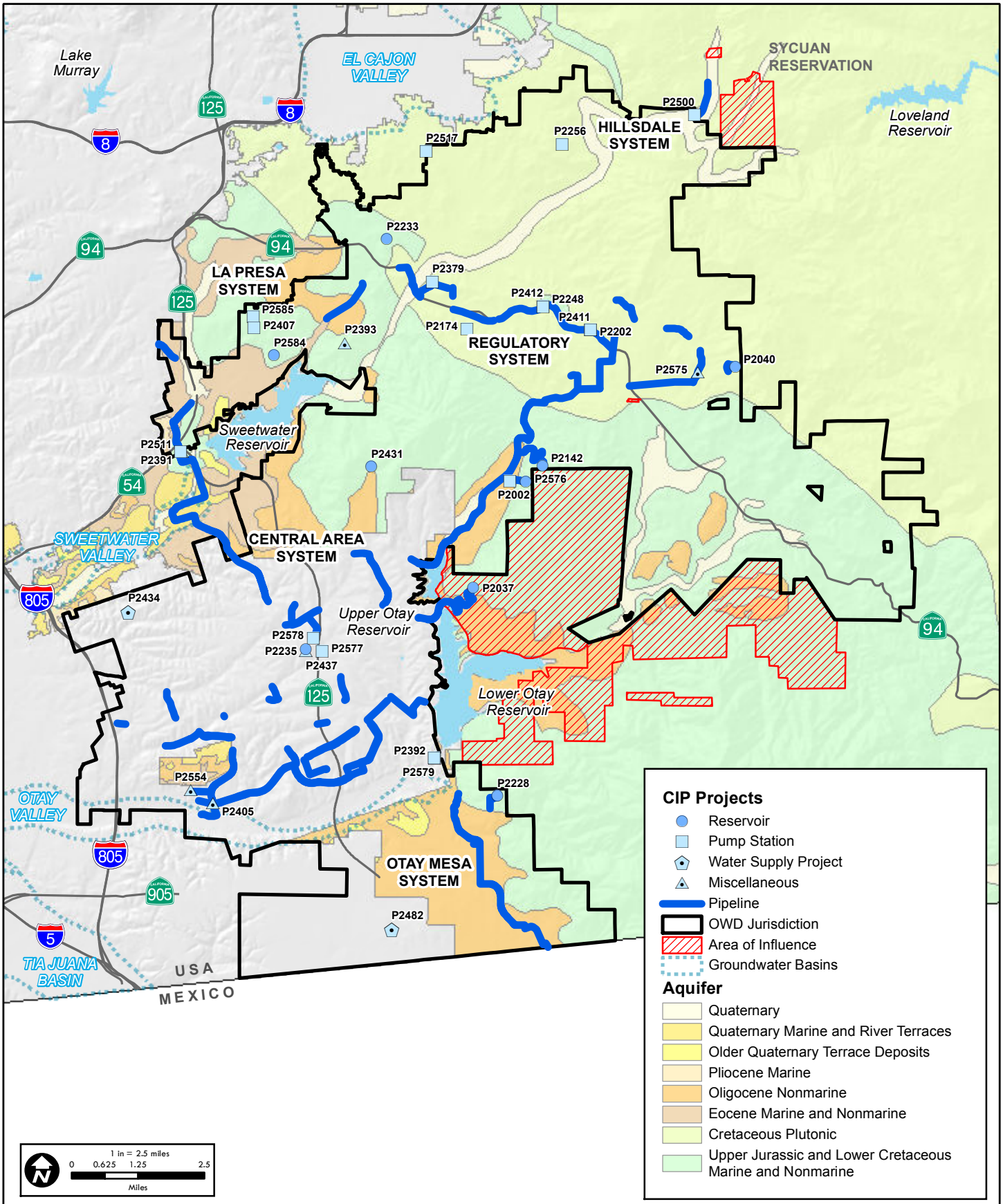
ATKINS

Figure 4.7-2

County Floodplains and Floodways

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.7-2 Flood Zones.mxd



Source: SanGIS 2016, ESRI 2016

ATKINS

Figure 4.7-3

County Groundwater Basins

100038569 2015 OWD WFMP Update - EIR

7/25/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.7-3 Groundwater Basins.mxd

Table 4.7-1 Beneficial Use Designations

Designation	Abbrev.	Definition
Municipal and Domestic Supply	MUN	Includes uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.
Agricultural Supply	AGR	Includes uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.
Industrial Service Supply	IND	Includes uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.
Industrial Process Supply	PROC	Includes uses of water for industrial activities that depend primarily on water quality.
Freshwater Replenishment	FRSH	Includes uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity).
Hydropower Generation	POW	Includes uses of water for hydropower generation.
Contact Water Recreation	REC1	Includes uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing, or use of natural hot springs.
Non-contact Water Recreation	REC2	Includes the uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.
Preservation of Biological Habitats of Special Significance	BIOL	Includes uses of water that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, or Areas of Special Biological Significance (ASBS), where the preservation or enhancement of natural resources requires special protection.
Warm Freshwater Habitat	WARM	Includes uses of water that supports warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Cold Freshwater Habitat	COLD	Includes uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Wildlife Habitat	WILD	Includes uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife, or wildlife water and food sources.
Rare, Threatened, or Endangered Species	RARE	Includes uses of water that supports habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.
Spawning, Reproduction, and/or Early Development	SPWN	Includes uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish. This use is applicable only for the protection of anadromous fish.

Source: RWCQB, San Diego Region, 1994

The San Diego Formation groundwater basin contains water within very thick sediment deposits that are believed to be at least 1,000 feet deep. The basin ground surface area is 79,724 acres. The estimated total groundwater storage capacity of this basin is approximately 960,000 acre-feet. Due to capacity and consumption factors (discussed below), the natural safe yield of the San Diego Formation groundwater basin is 3,000 to 5,000 AFY.

The Sweetwater Basins receive and collect water from the Sweetwater River due to percolation through an overlying alluvial valley. These aquifers are "unconfined," and therefore do not have defined surface area values. The Lower Sweetwater Basin has an estimated total groundwater storage capacity of 13,000 acre-feet, while the Middle Sweetwater Basin has an estimated total groundwater storage capacity of 28,900 acre-feet. Due to capacity and consumption factors (discussed below), the natural safe yield of the Lower Sweetwater Basin is 2,400 AFY and the natural safe yield of the Middle Sweetwater Basin is 3,000 AFY.

Due to the proximity of the San Diego Formation and Sweetwater Basins, MWD tracks groundwater use and water quality data for these two basin areas together. There are 13 municipal wells that average 4,590 AFY in groundwater consumption. Outside of these wells, there is an additional 2,900 AFY of groundwater consumption.

The primary water quality concerns within the San Diego Formation and Sweetwater Basins are the high total dissolved solids (TDS) and chloride content in water drawn from municipal wells, which ranges from 600 to 3,320 milligrams per liter (mg/L) for TDS and 359 to 1,590 mg/L for chloride.

The Otay Valley Basin underlies alluvial deposits within the Otay River. Storage capacity, the natural safe yield, consumption information, and water quality data for this basin are unknown at this time (MWD 2007).

4.7.1.4 Urban Runoff

Urban runoff discharged via municipal separate storm sewer systems (MS4s) has been identified as one of the principal causes of water quality problems in most urban areas. The storm water drainage systems within the OWD planning area collect runoff from roads, rooftops, driveways, parking lots, and other impervious areas, which flows directly into receiving waters without receiving treatment. Thus, urban runoff has the potential to discharge pollutants into receiving waters, thereby affecting water quality, associated wildlife, and public health. Potential pollutants contained in urban runoff and associated environmental effects include the following:

- **Sediments.** Sediments are soils or other surficial materials eroded and then transported or deposited by the action of wind, water, ice, or gravity. Sediments can increase turbidity, clog fish gills, reduce spawning habitat, lower young aquatic organism survival rates, smother bottom dwelling organisms, and suppress aquatic vegetation growth.
- **Nutrients.** Nutrients are inorganic substances, such as nitrogen and phosphorus. They commonly exist in the form of mineral salts that are either dissolved or suspended in water. Primary sources of nutrients in urban runoff are fertilizers and eroded soils. Excessive discharge of nutrients to water bodies and streams can cause excessive aquatic algae and plant growth. Such excessive production, referred to as eutrophication, may lead to excessive decay of organic matter in the

water body, loss of oxygen in the water, release of toxins in sediment, and the eventual death of aquatic organisms.

- **Metals.** Metals are raw material components in non-metal products such as fuels, adhesives, paints, and other coatings. Primary sources of metal pollution in storm water are typically commercially available metals and metal products. Metals of concern include cadmium, chromium, copper, lead, mercury, and zinc. Lead and chromium have been used as corrosion inhibitors in primer coatings and cooling tower systems. At low concentrations that naturally occur in soils, metals are not toxic. However, at higher concentrations, certain metals can be toxic to aquatic life. Humans can be impacted from contaminated groundwater resources and bioaccumulation of metals in fish and shellfish. Environmental concerns regarding the potential for release of metals to the environment have already led to restricted metal usage in certain applications.

- **Organic Compounds.** Organic compounds are carbon-based. Commercially available or naturally occurring organic compounds are found in pesticides, solvents, and hydrocarbons. Organic compounds can, at certain concentrations, indirectly or directly constitute a hazard to life or health. When rinsing off objects, toxic levels of solvents and cleaning compounds can be discharged to storm drains. Dirt, grease, and grime retained in the cleaning fluid or rinse water may also adsorb levels of organic compounds that are harmful or hazardous to aquatic life.

- **Trash and Debris.** Trash (such as paper, plastic, polystyrene packing foam, and aluminum materials) and biodegradable organic matter (such as leaves, grass cuttings, and food waste) are general waste products on the landscape. The presence of trash and debris may have a significant impact on the recreational value of a water body and aquatic habitat. Excess organic matter can create a high biochemical oxygen demand in a stream and thereby lower its water quality. Also, in areas where stagnant water exists, the presence of excess organic matter can promote septic conditions resulting in the growth of undesirable organisms and the release of odorous and hazardous compounds such as hydrogen sulfide.

- **Oxygen Demanding Substances.** Oxygen demanding substances include biodegradable organic material as well as chemicals that react with dissolved oxygen in water to form other compounds. Proteins, carbohydrates, and fats are examples of biodegradable organic compounds. Compounds such as ammonia and hydrogen sulfide are examples of oxygen demanding compounds. The oxygen demand of a substance can lead to depletion of dissolved oxygen in a water body and possibly the development of septic conditions.

- **Oil and Grease.** Primary sources of oil and grease are petroleum hydrocarbon products, motor products from leaking vehicles, esters, oils, fats, waxes, and high molecular-weight fatty acids. Introduction of these pollutants to water bodies is very possible due to the wide uses and applications of some of these products in municipal, residential, commercial, industrial, and construction areas. Elevated oil and grease content can decrease the aesthetic value of the water body, as well as the water quality.

- **Bacteria and Viruses.** Bacteria and viruses are ubiquitous microorganisms that thrive under certain environmental conditions. Their proliferation is typically caused by the transport of animal or human fecal wastes from the watershed. Water containing excessive bacteria and viruses can alter the aquatic habitat and create a harmful environment for humans and aquatic life. Also, the

decomposition of excess organic waste causes increased growth of undesirable organisms in the water.

- **Pesticides.** Pesticides (including herbicides) are chemical compounds commonly used to control nuisance growth or prevalence of organisms. Excessive application of a pesticide may result in runoff containing toxic levels of its active component.

4.7.2 Regulatory Framework

4.7.2.1 Federal

Clean Water Act

The 1972 CWA was designed to restore and maintain the chemical, physical, and biological integrity of the waters of the U.S. The CWA also directs states to establish water quality standards for all waters of the U.S. and to review and update such standards on a triennial basis. The EPA has delegated responsibility for implementation of portions of the federal CWA in California to the SWRCB and to the RWQCBs. This includes water quality control planning and programs such as the NPDES, which seeks to protect water quality through the issuance of permits regulating the discharge of pollutants into waters of the U.S. Section 303 of the CWA requires states to adopt water quality standards for all intrastate waters of the U.S.

Clean Water Act Section 303(d) Impaired Waters List

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of loading that the water body can receive and still be in compliance with water quality objectives. The TMDL can also act as a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. The TMDL prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows the linkage between loading reductions and the attainment of water quality objectives. The EPA must either approve a TMDL prepared by the state or, if it disapproves the state's TMDL, issue its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. After implementation of the TMDL, it is anticipated that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated. In California, preparation and management of the Section 303(d) list is administered by the RWQCBs.

Clean Water Act Section 404

Section 404 of the Clean Water Act establishes a program to regulate the discharge of dredge and fill material into waters of the U.S., including wetlands. Responsibility for administering and enforcing Section 404 is shared by the USACE and EPA. The USACE administers the day-to-day program, including individual permit decisions and jurisdictional determinations; develops policy and guidance; and enforces Section 404 provisions. EPA develops and interprets environmental criteria used in evaluating permit applications,

identifies activities that are exempt from permitting, reviews/comments on individual permit applications, enforces Section 404 provisions, and has authority to veto USACE permit decisions.

Federal Water Pollution Control Act/National Pollutant Discharge Elimination System

The 1972 CWA was designed to restore and maintain the chemical, physical, and biological integrity of the waters of the U.S. The CWA also directs states to establish water quality standards for all waters of the U.S. and to review and update such standards on a triennial basis. The EPA has delegated responsibility for implementation of portions of the federal CWA in California to the SWRCB and to the RWQCBs. This includes water quality control planning and programs such as the NPDES, which seeks to protect water quality through the issuance of permits regulating the discharge of pollutants into waters of the U.S. Section 303 of the CWA requires states to adopt water quality standards for all intrastate waters of the U.S.

Safe Drinking Water Act

Under the Safe Drinking Water Act (SDWA, Public Law 93-523), passed in 1974, the EPA regulates contaminants of concern to domestic water supply. Contaminants of concern relevant to domestic water supply are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by EPA primary and secondary Maximum Contaminant Levels (MCLs) that are applicable to treated water supplies delivered to the distribution system. MCLs and the process for setting these standards are reviewed triennially. Amendments to the SDWA enacted in 1986 established an accelerated schedule for setting MCLs for drinking water. The applicable state primary and secondary MCLs are set forth in Title 22, Division 4, Chapter 15, Article 4 of the California Code of Regulations.

National Flood Insurance Act

The National Flood Insurance Act of 1968 established the National Flood Insurance Program (NFIP) to provide flood insurance within communities that were willing to adopt floodplain management programs to mitigate future flood losses. The Act also required the identification of floodplain areas within the U.S. and the establishment of flood-risk zones within those areas. FEMA is the primary agency responsible for administering programs and coordinating with communities to establish effective floodplain management standards. FEMA is responsible for preparing Federal Insurance Rate Maps (FIRMs) that delineate the areas of known flood hazards and their risk applicable to the community.

National Flood Insurance Reform Act

The National Flood Insurance Reform Act of 1994 resulted in major changes in the NFIP. The Act, which amended the Flood Disaster Protection Act of 1973, provided tools to make NFIP more effective in achieving its goals of reducing the risk of flood damage to properties and reducing federal expenditures for uninsured properties that are damaged by flood. The Act required mitigation insurance and established a grant program for state and community flood mitigation planning projects.

4.7.2.2 State

State Water Resources Control Board

Created by the California State Legislature in 1967, the SWRCB holds authority over water resources allocation and water quality protection within the state. The five-member SWRCB allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine RWQCBs. The mission of SWRCB is to, "preserve, enhance, and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations." As of July 1, 2014, the EPA has delegated to the SWRCB the responsibility for administering California's drinking water program. SWRCB is accountable to EPA for program implementation and for adopting standards and regulations that are at least as stringent as those developed by EPA.

Section 401 of the Clean Water Act

Section 401 of the CWA requires an applicant for any federal permit (such as a Section 404 permit from the USACE) that proposes an activity which may result in a discharge to "waters of the State" obtain certification from the SWRCB, acting through the RWQCB, that the federal permit action meets state water quality objectives. Section 401 grants the State of California, through the RWQCB, the right to ensure its interests are protected on any federally permitted activity occurring in or adjacent to waters of the State. Therefore, if a proposed project requires a 404 permit and has the potential to impact waters of the State, the RWQCB will regulate the project and associated activities through a Water Quality Certification determination. The USACE will not issue a Section 404 permit until the RWQCB has been notified and the applicant has obtained a Section 401 certification.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, enacted in 1972, authorizes the SWRCB to adopt, review, and revise policies for all waters of the State (including both surface and ground waters), and directs the RWQCBs to develop region-specific Basin Plans. Section 13170 of the California Water Code also authorizes the SWRCB to adopt water quality control plans on its own initiative. The purpose of these plans is to designate beneficial uses of the region's surface and ground waters, designate water quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives.

Cobey-Alquist Floodplain Management Act of 1965

Under the Cobey-Alquist Floodplain Management Act, local governments are encouraged to plan, adopt and enforce land use regulations for floodplain management, in order to protect people and property from flooding hazards. This Act also identifies requirements that jurisdictions must meet in order to receive state financial assistance for flood control. The Act supports restrictive general plan policies and zoning provisions with respect to floodplain management. Policies and programs providing for protection and prevention of community flood hazards should be incorporated into the safety element of the jurisdiction's general plan. Further, floodways and floodplain boundaries should be designated, and a consistent land use designation given to affected lands in the land use element (including its diagram) of the jurisdiction's general plan.

National Pollution Discharge Elimination System Permits

In California, the SWRCB and its RWQCBs administer the NPDES permit program. The NPDES permit system was established in the federal and California CWA to regulate both point-source discharges and nonpoint-source discharges to surface waters of the U.S. The NPDES program consists of characterizing receiving water quality, identifying harmful constituents, targeting potential sources of pollutants, and implementing a comprehensive storm water management program. Construction and industrial activities are typically regulated under statewide general permits that are issued by the SWRCB. The RWQCB also issues Waste Discharge Requirements that also serve as NPDES permits under the authority delegated to the RWQCBs, under the CWA. In November 1990, under Phase I of the urban runoff management strategy, the EPA published NPDES permit application requirements for municipal, industrial, and construction storm water discharges. With regard to municipalities, the permit application requirements were directed at jurisdictions owning or operating municipal separate storm sewer systems (MS4s) serving populations of 100,000 or more, or contributing significant pollutants to waters of the U.S. Such municipalities were required to obtain coverage under an NPDES municipal storm water permit, as well as to develop and implement an urban runoff management program to reduce pollutants in urban runoff and storm water discharges.

California Water Code, Groundwater Management Act

California Water Code, Division 6, Part 2.75, Chapters 1-5, Sections 10750 through 10755.4 establish the Groundwater Management Act, which was enacted in 1992 as AB 3030. The intent of the Groundwater Management Act is to encourage local agencies to work cooperatively to manage groundwater resources within their jurisdictions and to provide a methodology for developing a Groundwater Management Plan.

AB 3030 was amended in 2002 by SB 1938, which modified the Groundwater Management Act by requiring any public agency seeking state funds administered through the DWR for the construction of groundwater projects to prepare and implement a groundwater management plan with specified components. Further, SB 1938 amended the Groundwater Management Act so that SB 1938 requirements applied not just to management areas that overlie Bulletin 118 defined groundwater basins, but to those agencies that have groundwater management outside of those basins.

AB 3030 was amended in 2011 by AB 359, which modified the Groundwater Management Act by requiring public agencies to prepare and implement a groundwater management plan with an additional component that focuses on identifying groundwater recharge areas. Additionally, AB 395 also included several plan adoption procedural changes.

Sustainable Groundwater Management Act

On September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package, comprised of AB 1739 (Dickinson), SB 1168 (Pavley) and SB 1319 (Pavley), collectively known as the Sustainable Groundwater Management Act (SGMA). The SGMA provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for state intervention only if necessary to protect the resource. The SGMA requires the formation of local groundwater sustainability agencies (GSAs) that must assess conditions in their local water basins and adopt locally-based management plans. The act provides a 20 year timeline for the GSAs to implement the plans in order to achieve long-term groundwater sustainability. Further, the act protects existing surface water and groundwater rights and does not interfere with current drought response measures.

4.7.2.3 Local

San Diego Regional Water Quality Control Board

The proposed project area is located within the jurisdiction of the San Diego RWQCB. As authorized by Porter-Cologne, the San Diego RWQCB's primary function is to protect the quality of the waters within its jurisdiction, including the proposed project area, for all beneficial uses. State law defines beneficial uses of California's waters that may be protected against quality degradation to include, but not be limited to: domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

The San Diego RWQCB implements water quality protection measures by formulating and adopting water quality control plans (referred to as basin plans, as discussed below) for specific groundwater and surface water basins, and by prescribing and enforcing requirements on all agricultural, domestic, and industrial waste discharges. The Board oversees many programs to support and provide benefit to water quality, including the following major programs: agricultural regulatory; above-ground tanks; basin planning; California Bay-Delta Authority; confined animal facilities; landfills and mining; non-point source; spills, leaks, investigations, and cleanups; storm water; TMDL; underground storage tanks, wastewater discharges (including the NPDES); water quality certification; and watershed management.

San Diego Basin Plan

The San Diego Basin Plan (SDBP), adopted in 1994 and most recently amended in 2011, sets forth water quality objectives for constituents that could potentially cause an adverse effect or impact on the beneficial uses of water. Specifically, the SDBP is designed to accomplish the following: (1) designate beneficial uses for surface and ground waters; (2) set the narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state anti-degradation policy; (3) describe implementation programs to protect the beneficial uses of all waters within the region; and (4) describe surveillance and monitoring activities to evaluate the effectiveness of the SDBP. The SDBP incorporates by reference all applicable SWRCB and RWQCB plans and policies.

County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance

The current Watershed Protection, Stormwater Management, and Discharge Control Ordinance (WPO) and the Stormwater Standards Manual were adopted by the County Board of Supervisors in January 2016~~August 2003~~. The stated purposes of these ordinances are to protect the health, safety and general welfare of the San Diego County residents; to protect water resources and to improve water quality; to cause the use of management practices by the county and its citizens that will reduce the adverse effects of polluted runoff discharges on waters of the state; to secure benefits from the use of storm water as a resource; and to ensure the county is compliant with applicable state and federal law. The WPO contains discharge prohibitions, and requirements that vary depending on type of land use activity and location in the county.

In addition, the County of San Diego has adopted its Best Management Practices (BMP) Design Manual ~~Standard Urban Stormwater Mitigation Plan (SUSMP)~~ for land development and public improvement projects to comply with the 2013 Municipal Separate Storm Sewer System (MS4) Permit (Order No. R9-

2013-0001 as amended by R9-2015-0001 and R9-2015-0100). The BMP Design Manual ~~SUSMP~~ is focused on project design requirements and related post-construction requirements for land development and capital improvement projects, and addresses WPO requirements for these project types.

San Diego County Groundwater Ordinance

The County of San Diego manages anticipated groundwater demand through the County Groundwater Ordinance. This Ordinance does not limit the number of wells or the amount of groundwater extraction from existing landowners. However, the Ordinance does identify specific measures to mitigate potential groundwater impacts of projects requiring specified discretionary permits. Existing land uses are not subject to the Ordinance unless a listed discretionary permit is required. Additionally, major use permits or major use permit modifications that involve construction of agricultural and ranch support facilities, or those involving new or expanded agricultural land uses, are among the exemptions from the Ordinance. However, the agricultural exemption does not supersede or limit the application of any law or regulation, including CEQA.

OWD Hazardous Materials Business Plan

OWD routinely prepares and implements a HMBP at each existing facility that involves the transportation, storage, use, and disposal of hazardous materials.

4.7.3 Project Impacts and Mitigation

4.7.3.1 Issue 1 – Water Quality

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCP and PDF, as well as Geo-SCP-2 and Geo-SCP-3 (refer to Section 4.5.3.2, Geology, of this PEIR), to reduce potential impacts to water quality standards. Additionally, CIP projects will incorporate permanent site design and source control BMPs in accordance with the County WPO and BMP Design Manual and conform to any applicable Priority Development Project requirements detailed in WPO Section 67.810(b).

Hyd-SCP-1 In accordance with the Water Agencies' Standards, the construction contractor is required to implement a safety plan at each CIP construction site that would involve the transport, storage, use, and disposal of hazardous materials. Such plans will also specify storm water BMPs, to be consistent with those identified in Geo-SCP-3 (refer to Section 4.5, Geology, of this PEIR), to minimize downstream water quality degradation from runoff pollution associated with CIP construction activities.

Hyd-PDF-1 For each CIP facility that would involve the transport, storage, use, and disposal of hazardous materials during project operation, OWD will implement a site-specific Hazardous Materials Business Plan (HMBP), including BMPs to prevent downstream water quality degradation from runoff pollution associated with CIP post-construction operations. In addition, OWD is required to obtain a permit from the County Department of Environmental Health (DEH) allowing for the use of specified hazardous substances during the CIP post-construction operation of these sites (refer to Section 4.11, Public

Safety, of this PEIR). Typical BMPs to be implemented as part of the HMBP may include, but are not limited to, the actions listed below.

i. Minor chemical spills will be contained by absorbent, using trained employees in proper protective equipment, and waste will be placed in a properly labeled container for disposal.

ii. For major chemical spills, employees will notify the local fire department. Prior to arrival by emergency responders, trained employees using proper protective equipment will attempt to contain the spill using absorbent, physical barriers, or other methods as specified in the HMBP, and prevent it from entering the storm drain and from discharging off-site as runoff.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update could have a significant impact if it violates any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality.

Impact Analysis

Water Quality Standards/Waste Discharge Requirements

Construction Impacts. Storm water pollutants associated with construction activities could include, but are not limited to, sediments, oil and grease, and organic compounds. Water quality standards and waste discharge requirements that would be applicable to the OWD and to the CIP projects under the 2015 WFMP Update are set forth by the SWRCB and/or the RWQCB. As described in Geo-SCP-2 and Geo-SCP-3 (refer to Section 4.5.3.2, Geology, of this PEIR), all CIP construction contractors are required to implement construction and post-construction BMPs in accordance with either an Erosion Control Plan (for projects that would result in less than one acre of land disturbance), pursuant to the storm water regulations or ordinances of the local agency jurisdiction within which the CIP project occurs, or in accordance with a SWPPP (for any project greater than one acre in size), pursuant to the NPDES General Construction Permit. In addition, as described in Hyd-SCP-1 above, prior to grading, all CIP construction contractors are required to submit and implement a safety plan. These plans would also identify construction BMPs to reduce impacts to surface water quality due to storm water runoff pollution from construction sites including, but not limited to, erosion control/stabilizing measures in cleared areas and on graded slopes (e.g., geotextiles, mats, fiber rolls, soil binders, temporary hydroseeding); sediment controls (e.g., temporary inlet filters, silt fences, fiber rolls, gravel bags, temporary sediment basins, check dams, street sweeping, energy dissipaters); and stabilized construction access points (e.g., temporary gravel or pavement) and sediment stockpiles (e.g., silt fences and tarps).

Operational Impacts. Potential storm water pollutants associated with the developed CIP project sites could include, but are not limited to, sediment discharges, nutrients from fertilizers, heavy metals, organic compounds, trash and debris deposited in drain inlets, oxygen demanding substances, oil and grease, bacteria and viruses, and pesticides from landscaping. For long-term operations at CIP reservoirs, pump stations, and groundwater wells that would involve the transport, storage, use, and disposal of hazardous materials, OWD would prepare and implement a HMBP and obtain and comply with a DEH permit, as described in Hyd-PDF-1 above. The HMBP would identify post-construction BMPs to reduce potential

impacts to surface water quality due to storm water runoff pollution from developed sites including, but not limited to, containment of chemical spills (e.g., absorbent, physical barriers, or other methods) by trained employees using proper protective equipment and disposal of waste in a properly labeled container; and notification of emergency response agencies for major chemical spills. Therefore, implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, and Hyd-PDF-1 would reduce impacts associated with potential violations of water quality standards or waste discharge requirements resulting from construction and operation of CIP projects under the 2015 WFMP Update to a less than significant level.

Mitigation/Performance Measures

Implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, and Hyd-PDF-1 would reduce impacts associated with potential violations of water quality standards or waste discharge requirements and potential surface water quality degradation resulting from construction, development and long-term operations of CIP projects under the 2015 WFMP Update to a less than significant level; therefore, no mitigation is required.

4.7.3.2 Issue 2 – Groundwater Quality, Supplies and Recharge

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to Geo-SCP-2 and Geo-SCP-3 (refer to Section 4.5.3.2, Geology, of this PEIR) and Hyd-SCP-1 and Hyd-PDF-1 (refer to Section 4.7.3.1, Issue 1) to reduce potential impacts to groundwater quality.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if it substantially degrades groundwater quality, or interferes substantially with groundwater supplies or recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

Impact Analysis

Groundwater Quality

Construction Impacts. As shown in Figure 4.7-3, no CIP projects would be located within the Sweetwater and Otay Valley groundwater basins; however, the following projects would be constructed adjacent to these basins, and could therefore affect the quality of groundwater in these basins: P2391 (Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (624/340 PRS, Heritage Road and Hard Rock Road), P2579 (Temporary Lower Otay Pump Station Rehabilitation), and P2392 (Lower Otay Pump Station Replacement and Expansion, from 12,500 to 18,000 gpm). Pollutants generated by construction activities for these CIP projects could potentially be carried in runoff that may drain off-site and percolate into the nearby groundwater basins. Storm water pollutants associated with construction activities are listed in Section 4.7.3.1 (Issue 1) above and could include, but are not limited to, sediments, oil and grease, and organic compounds. However, implementation of Geo-SCP-3 and Hyd-SCP-1 would reduce potential groundwater quality impacts due to storm water runoff pollution associated with construction of P2391 (Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340

PRS at Energy Way and Nirvana Avenue), P2405 (624/340 PRS, Heritage Road and Hard Rock Road), P2579 (Temporary Lower Otay Pump Station Rehabilitation), and P2392 (Lower Otay Pump Station Replacement and Expansion, from 12,500 to 18,000 gpm) to a less than significant level.

Operational Impacts. Following construction of P2391 (Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (624/340 PRS, Heritage Road and Hard Rock Road), P2579 (Temporary Lower Otay Pump Station Rehabilitation), and P2392 (Lower Otay Pump Station Replacement and Expansion, from 12,500 to 18,000 gpm), pollutants generated by development and operational activities for these CIP projects could potentially be carried in runoff that may drain off-site and percolate into the nearby groundwater basins. Such storm water pollutants are listed in Section 4.7.3.1 (Issue 1) above and could include, but are not limited to, sediment discharges, nutrients from fertilizers, heavy metals, organic compounds, trash and debris deposited in drain inlets, oxygen demanding substances, oil and grease, bacteria and viruses, and pesticides from landscaping. In addition, the Otay Mesa Lot 7 groundwater well development project (P2482) would involve groundwater extraction. This CIP project would involve the addition of water treatment facilities to the existing wells which would avoid impacts to groundwater quality. Implementation of Geo-SCP-2 and Hyd-PDF-1 would reduce potential groundwater quality impacts due to storm water runoff pollution associated with development and long-term operations at P2391 (Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (624/340 PRS, Heritage Road and Hard Rock Road), P2579 (Temporary Lower Otay Pump Station Rehabilitation), and P2392 (Lower Otay Pump Station Replacement and Expansion, from 12,500 to 18,000 gpm) to a less than significant level.

Groundwater Supplies and Recharge

The Otay Mesa Lot 7 groundwater well development project (P2482) would involve groundwater extraction. The groundwater well is estimated to extract between 300 and 500 AFY (Atkins 2016). The amount of groundwater extraction associated with P2482 would not increase over existing conditions. Therefore, CIP project P2482 would not result in a net deficit in aquifer volume or a lowering of the local groundwater table.

As shown in Figure 4.7-3, construction of the CIP reservoirs and pump stations would occur outside of the Sweetwater and Otay Valley groundwater basins. In addition, these projects would be located at higher elevations than the adjacent groundwater basins; therefore, it would not be practical to install groundwater pumps and pipelines to serve these sites for any dewatering activities that may be required for construction of these CIP projects. Since none of these CIP projects would be placed over the Sweetwater and Otay Valley groundwater basins, there would not be an increase in impermeable surface areas that would otherwise substantially prohibit groundwater percolation. Therefore, there would be no impacts to groundwater supplies and recharge from implementation of the 2015 WFMP Update.

Mitigation/Performance Measures

Implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, and Hyd-PDF-1 would reduce potential groundwater quality impacts due to storm water runoff pollution associated with construction, development and long-term operations at P2391 (Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (624/340 PRS, Heritage Road and Hard Rock Road), P2579 (Temporary Lower Otay Pump Station Rehabilitation), and P2392 (Lower Otay Pump Station Replacement and Expansion, from 12,500 to 18,000 gpm) to a less than significant level. In addition, there

would be no impacts to groundwater supplies and recharge from implementation of the 2015 WFMP Update; therefore, no mitigation is required.

4.7.3.3 Issue 3 – Alteration of Drainage Patterns

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following PDF, as well as Geo-SCP-2 and Geo-SCP-3 (refer to Section 4.5.3.2, Geology, of this PEIR), to reduce potential impacts associated with potential storm water runoff pollution (including erosion/siltation), flooding and exceedance of capacity of storm water drainage facilities due to alteration of localized drainage patterns.

Hyd-PDF-2 At the time of CIP project design, the OWD will implement the relevant requirements of the 2013 UBC and CBC for all above-ground CIP projects (reservoirs, pump stations, and facilities for groundwater production wells), including the design of appropriately sized drainage facilities, where necessary, to capture runoff from each project site to reduce the risk of flooding.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, the 2015 WFMP Update may have a significant impact if it would substantially alter existing drainage patterns, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would provide substantial additional sources of polluted runoff (including erosion/siltation); result in flooding (and exposure of people or structures to a significant risk of loss, injury or death); or exceed the capacity of storm water drainage systems.

Impact Analysis

Increases in Surface Runoff - Additional Sources of Polluted Runoff/Erosion/Siltation

None of the CIP projects under the 2015 WFMP Update would be located within a drainage course. Although not altering drainage courses, construction and development of the CIP project sites could result in the localized alteration of drainage patterns through topographic modifications. Such alterations of drainage patterns may result in temporary (during construction) and permanent (post-construction) increases in the rate or amount of surface runoff discharging from the CIP project sites which could represent additional pollutant sources, including erosion and downstream siltation. However, implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, and Hyd-PDF-1 would reduce impacts associated with storm water runoff pollution (including erosion and excess siltation) from construction and operation of CIP projects under the 2015 WFMP Update to a less than significant level.

Flooding

In addition to potential impacts associated with increased runoff pollutants, alteration of drainage courses could also result in temporary or permanent increases in runoff volumes that could cause ponding and/or flooding events. However, as described in Geo-SCP-2 and Geo-SCP-3 (refer to Section 4.5.3.2, Geology, of this PEIR), all CIP construction contractors are required to implement construction and post-construction BMPs in accordance with either an Erosion Control Plan (for projects that would result in less than one acre of land disturbance), pursuant to the storm water regulations or ordinances of the local agency

jurisdiction within which the CIP project occurs, or in accordance with a SWPPP (for any project greater than one acre in size), pursuant to the NPDES General Construction Permit. These plans identify BMPs to reduce temporary flooding impacts, such as detention basins to collect surface water runoff and allow it to percolate slowly into the soils. In addition, as described in Hyd-PDF-2 above, to prevent flooding from the developed sites, all CIP reservoirs, pump stations, and above-ground facilities for groundwater production wells would be designed to include appropriately sized drainage facilities to capture and convey storm water flows, in accordance with UBC and CBC standards. Therefore, implementation of Geo-SCP-2, Geo-SCP-3, and Hyd-PDF-2 would reduce temporary (construction) and permanent (operational) impacts associated with potential flooding at CIP project sites to a less than significant level.

Storm Water Drainage Capacity

Temporary and/or permanent alterations of localized drainage patterns may result in increases in the rate or volume of surface runoff discharging from the CIP project sites which could exceed the capacity of existing or planned off-site storm water drainage systems. However, as described in Geo-SCP-2 and Geo-SCP-3 (refer to Section 4.5.3.2, Geology, of this PEIR), all CIP construction contractors are required to implement construction and post-construction BMPs in accordance with either an Erosion Control Plan (for projects that would result in less than one acre of land disturbance), pursuant to the storm water regulations or ordinances of the local agency jurisdiction within which the CIP project occurs, or in accordance with a SWPPP (for any project greater than one acre in size), pursuant to the NPDES General Construction Permit. These plans identify BMPs to reduce temporary flooding impacts, such as detention basins to collect surface water runoff and allow it to percolate slowly into the soils. For the developed condition, all CIP reservoirs and pump stations would be designed to include appropriately sized drainage facilities to capture and convey storm water runoff flows, in accordance with UBC and CBC standards. With these drainage facilities in place, the incremental increase in surface runoff flows from the developed reservoir and pump station sites are not expected to exceed the capacity of storm water drainage systems. Therefore, implementation of Geo-SCP-2, Geo-SCP-3, and Hyd-PDF-2 would reduce impacts associated with potentially exceeding the capacity of storm water drainage systems (for construction, post-construction, and developed conditions) to a less than significant level.

Mitigation/Performance Measures

Implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, Hyd-PDF-1, and Hyd-PDF-2 would reduce potential impacts from storm water runoff pollution (including erosion/siltation), flooding, and exceedance of capacity of storm water drainage facilities due to alteration of localized drainage patterns associated with construction and operation of CIP projects under the 2015 WFMP Update to a less than significant level; therefore, no mitigation is required.

4.7.3.4 Issue 4 – Mudflows

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, Geo-SCP-1 (refer to Section 4.5.3.1, Geology, of this PEIR) to reduce potential impacts to above-ground CIP structures associated with mudflows.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, the 2015 WFMP Update may have a significant impact if it would expose above-ground CIP structures to a significant risk of loss involving inundation by mudflow.

Impact Analysis

As discussed in Section 4.5.3.1 (Geology) of this PEIR, based on the presence of relatively steep topography and the underlying San Diego and Otay geologic formations within the planning area (refer to Figure 4.5-2 of this PEIR), there is a potential for seismically induced landslides and mudflows to occur in these areas that could cause substantial damage to the following CIP projects under the 2015 WFMP Update: P2002 (Phase IIIA pump station), P2576 (Phase III water storage), and P2228 (Phase III water storage). Geo-SCP-1 would require the completion of a geotechnical study prior to construction of these CIP projects to adequately assess geotechnical issues, including mudflow potential. Such geotechnical study would include sampling of subsurface earth materials. If such materials are found to be susceptible to mudflows, then appropriate techniques to minimize this potential would be designed and implemented, including but not limited to, remedial grading, slope stabilization in areas of proposed development, or construction of buttress fills to remediate the potential for instability of cut slopes. Therefore, implementation of Geo-SCP-1 would reduce the exposure of people and CIP facilities to substantial adverse effects associated with potential mudflows to a less than significant level.

Mitigation/Performance Measures

Implementation of Geo-SCP-1 would reduce the exposure of above-ground CIP facilities to substantial adverse effects associated with mudflows to a less than significant level; therefore, no mitigation is required.

4.7.4 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2015 WFMP Update

Would the 2015 WFMP Update place structures within a 100-year flood hazard area which would impede or redirect flood flows?

As shown in Figure 4.7-2, one above-ground facility (P2405; 624/340 PRS, Heritage Road and Hard Rock Road) under the 2015 WFMP Update would be constructed within a FEMA-designated 100-year floodplain or floodway. However, this facility is a pressure reducing station (as described in Section 5.2.5 of the 2015 WFMP Update) which is comprised of a main pressure reducing valve and a small reducing valve housed in a pre-cast concrete vault and may also include a pressure relief valve designed to protect the lower system from over-pressurization in the event of a valve failure, all of which occupies a small 10 foot by 8 foot footprint on the ground surface that would not cause an redirection or impedance to the natural direction of flood flows. Therefore, implementation of the 2015 WFMP Update would not result in the placement of an above-ground CIP structure that would impede or redirect flood flows within the 100-year flood hazard area.

Would any CIP facilities associated with the 2015 WFMP Update have the potential to be inundated by tsunami or seiche?

Tsunamis. As shown in Figure 4.7-2, the CIP reservoirs and pump stations under the 2015 WFMP Update would be located in the central and eastern portions of the planning area, over 10 miles from the Pacific Ocean. Therefore, none of the CIP projects under the 2015 WFMP Update would be at a significant risk for inundation by a tsunami.

Seiches. The Sweetwater, Upper Otay, and Lower Otay reservoirs, in which seismically induced seiches could occur, were constructed and are operated under all relevant safety and design features, including the ability to accommodate surface waves associated with seismic events. Therefore, none of the CIP projects under the 2015 WFMP Update would be at a significant risk for inundation by a seiche.

Would the 2015 WFMP Update expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam?

As shown in Figure 4.7-2, none of the CIP reservoirs, pump stations, and above-ground facilities for groundwater production wells under the 2015 WFMP Update would be constructed within a FEMA-designated 100-year floodplain or floodway limits extending downstream of the Sweetwater and Otay reservoirs to the Pacific Ocean, which would be the areas affected by a potential dam break at either of these facilities. Therefore, none of the CIP projects under the 2015 WFMP Update would be at a significant risk for inundation as a result of the failure of a levee or dam.

4.7.5 References

Atkins. 2016. Draft 2015 Otay Water District Water Facilities Master Plan Update. May.

California Regional Water Quality Control Board (RWCQB), San Diego Region. 1994. Water Quality Control Plan for the San Diego Basin (9). Amendments Effective April 4, 2011.

County of San Diego (County). 2007. Floodplain Management Plan. August.

County of San Diego (County). 2011. San Diego County General Plan, Chapter 5 - Conservation and Open Space Element. August.

Metropolitan Water District of Southern California. 2007. *Draft Groundwater Assessment Study.* Report Number 1308. Accessed April 2016 at http://edmsidm.mwdh2o.com/idmweb/cache/MWD%20EDMS/003697466-1.pdf

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4.8 Landform Alteration and Visual Aesthetics

This section of the PEIR for the 2015 WFMP Update describes existing conditions within the WRMP planning area with respect to landform alteration and visual aesthetics; the potential physical environmental effects (direct, indirect, and/or cumulative) related to these issues resulting from development of CIP projects under the 2015 WFMP Update; and the project design features, standard construction practices, and mitigation/performance measures to reduce or avoid the identified impacts. Potential indirect impacts of night lighting to biological resources are discussed in Section 4.2 (Biological Resources) of this PEIR.

4.8.1 Environmental Setting

To define the visual character of the planning area, this section includes a discussion of the landform, vegetation, and development found within the area. Landform includes the major topographic features of the area; vegetation includes natural and ornamental vegetation of the area; and development includes the general land use types (such as residential, commercial, open space) of the area.

The planning area spans 80,320 acres (125.5 square miles) within south central San Diego County. The visual character of this large area varies greatly. Elevations within the planning area range from 59 feet AMSL to 2,605 feet AMSL. The planning area contains visual features such as valleys, hills, mountains, mesas, lakes and rivers, as well as both urban and rural lands. Major transportation routes include I-8, SR-54, and SR-94 to the north; I-805 to the west; and SR-125 in the north and south. Due to the size of the planning area, a discussion of the visual characteristics for each of the five primary service areas (i.e., the Hillsdale, La Presa, and Regulatory systems in the North District; and Central and Otay Mesa systems in the South District), as shown in Figure 3-2 of this PEIR, is provided below.

4.8.1.1 North District

Approximately 35 percent of the North District is disturbed or developed. The majority of the area (approximately 57 percent) is coastal scrub and chaparral communities; the remaining area contains grassland, riparian, and woodland.

Regulatory System

This area spans 27,440 acres within the eastern portion of the planning area. Of the five service areas, the Regulatory System contains the most undeveloped land, and is just west of the southern edge of Cleveland National Forest. Elevations within this area range from 289 feet AMSL to 2,605 feet AMSL.

This service area contains the following scenic topographic features: San Miguel Mountain, Mother Miguel Mountain, and a portion of the Jamul Mountains. Dulzura Creek extends from the Lower Otay Reservoir in the south, paralleling Otay Lakes Road until reaching SR-94, and then follows SR-94 to the southeast corner of the service area. Steele Canyon and Steele Canyon Golf Course are important visual resources to the community, and are located within Steele Canyon Valley. The Jamul Mountains traverse the south portion of the planning area, and the San Miguel Mountains traverse the west portion. Vegetation types within this service area includes marsh and wetland, forest, grassland (native, non-native and vernal pools), riparian communities, coastal scrub and chaparral, and woodland.

The rural communities of Jamul and Steele Canyon are located within this service area. Jamul is a rural town with small commercial centers located at two main intersections along SR-94. Steele Canyon is a small, semi-rural community along SR-94. Land uses within these communities include residential, commercial, industrial, and open space.

La Presa System

This service area is 5,882 acres within the northwestern portion of the planning area. The majority of the topography in the La Presa System is relatively flat. The Sweetwater Reservoir is a scenic aquatic feature that lies just outside the southerly boundary of the service area. The La Presa System contains the communities of La Presa, Rancho San Diego, and a portion of Spring Valley. This area is characterized with a balance of urban, semi-rural, agricultural, and open space land uses.

Hillsdale System

The Hillsdale System, in the northern portion of the planning area, comprises 9,569 acres. Elevations range from 325 feet AMSL to 2,167 feet AMSL, and this area contains one scenic topographic feature: McGinty Mountain. In addition, Jamacha Valley and Sweetwater River traverse this service area. The communities of Jamacha, Dehesa, and Cottonwood make up the urban areas of the Hillsdale System, which include residential, commercial, industrial, and open space land uses.

4.8.1.2 South District

Central Area System

The Central Area System is located in eastern Chula Vista and consists of 27,702 acres. Elevations range from 59 feet AMSL to 2,369 feet AMSL. Although there are no scenic topographic features within this service area, the Upper and Lower Otay reservoirs are scenic aquatic features that lie just outside the easterly boundary.

Poggi Canyon, Otay Valley and Otay River traverse the southerly service area boundary. The north-south trending Poggi Canyon is a tributary to the Otay River and is located midway between I-805 and SR-125, south of Olympic Parkway and directly west of Rock Mountain. Rock Mountain is an active quarry that is also located west of SR-125 and directly north of Otay River Valley and east of Poggi Canyon. Although it is being mined for sand, gravel and boulders, the peak of the mountain (at an elevation of 620 feet AMSL) is considered an aesthetic resource in the Chula Vista General Plan.

Developed areas within the Central System consist of residential industrial, and commercial and recreational land uses. Development is centered along major road corridors including Telegraph Canyon Road and East H Street. Approximately 53 percent of the Central System is urban; the remaining portions contain coastal scrub and chaparral communities, grassland, and riparian.

Otay Mesa System

The Otay Mesa System contains rolling hills, open mesas, river valleys, canyons, and mountain ranges with steep, rugged terrain. Elevations range from 213 feet AMSL to 1,522 feet AMSL. There are no scenic topographic features within this service area, as the nearest landmark, Otay Mountain, is located 4.5 miles to the east. Otay Valley and Otay River traverse the northerly service area boundary.

Developed areas within the Otay Mesa System include portions of the city of San Diego and the Otay Subregion (County 2011b). The San Diego portion features agricultural and industrial land uses, and the Otay Mesa area features primarily agricultural land use, along with San Diego County and state correctional facilities. Approximately 49 percent of the area is disturbed or developed; the remaining portions consist of coastal scrub and chaparral communities, and grassland.

4.8.2 Regulatory Framework

4.8.2.1 Federal

There are no applicable federal regulations.

4.8.2.2 State

California Scenic Highways Program

The California Scenic Highways Program was created by the California Scenic Highway Law in 1963 with the purpose of preserving and protecting scenic highway corridors from any change that would diminish the aesthetic value of lands adjacent to highways. California Scenic Highways are those highways that are either officially designated by Caltrans or are eligible for designation. A highway's "scenic corridor" status changes from "eligible" to "officially designated" when the local jurisdiction adopts a *Scenic Corridor Protection Program*; applies to Caltrans for scenic highway approval; and receives notification from Caltrans that the highway has been designated as an official State Scenic Highway. Once a scenic highway is designated as such, the responsibility lies with the local jurisdiction to regulate development within the scenic highway corridor. This applies only to areas where the local agency has land use jurisdiction. Scenic highway nominations are evaluated using the following criteria:

- The proposed scenic highway is principally within an unspoiled native habitat, and showcases the unique aspects of the landscape, agriculture, or water features;
- Existing visual intrusions do not significantly impact the scenic corridor;
- Strong local support for the proposed scenic highway designation is demonstrated; and
- The length of the proposed scenic highway is not short or segmented.

4.8.2.3 Local

OWD is a member agency of the SDCWA, which is governed primarily by the County Water Authority Act (Stats. 1943, c. 545). This Act mandates the SDCWA to provide water to meet the needs of member agencies in its service area. As defined under Section 53091 of the California Government Code, the SDCWA and its member agencies, including OWD, are not subject to local land use plans, policies, and ordinances; however, for the purposes of CEQA analysis, local land use planning documents are addressed in this PEIR.

The planning area spans three different land use jurisdictions: County of San Diego, City of San Diego, and City of Chula Vista. All three of these agencies have adopted general plans that identify scenic resources and vistas within their respective jurisdiction. The general plan-designated scenic resources and vistas within the planning area are described below.

County of San Diego General Plan

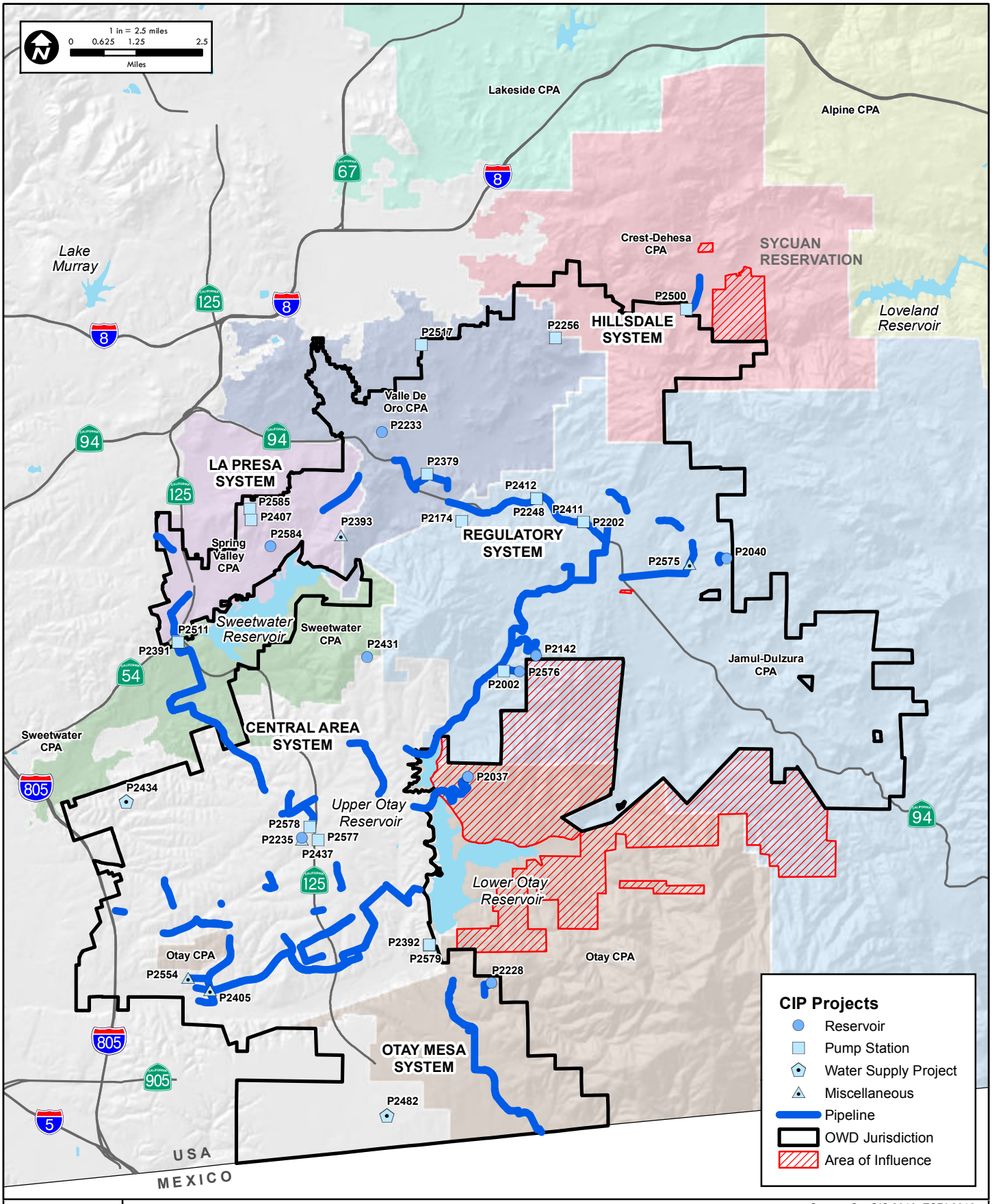
As shown in Figure 4.8-1, five of the County of San Diego's Community Planning Areas (CPAs) or Subregional Plans partially fall within the WRMP planning area: Crest/Dehesa CPA, Jamul/Dulzura Subregional Plan, Otay Subregional Plan, Sweetwater CPA, and Spring Valley CPA. Within the Crest/Dehesa CPA, Dehesa Mountain, Ironside Mountain, and El Capitan are identified as an important scenic resource (County 2011a). The Jamul/Dulzura Subregional Plan identifies Lawson Peak, Tecate Peak, and Otay Mountain as valuable scenic resources; and SR-94, Lyons Valley Road, Skyline Truck Trail, Proctor Valley Road, Honey Springs, Otay Lakes, and Lawson Valley Road as scenic highway corridors (County 2014a). The Otay Subregion Plan, which includes Village 13, identifies Otay Mountain as visually significant (County 2011b). The Sweetwater CPA lists Sweetwater Dam and large trees as a scenic resources; Bonita Road, San Miguel, Guajolote, and Sweetwater Road as scenic roads; and Mother Miguel Mountain as a scenic viewshed (County 2014c). The Spring Valley CPA identifies the Spring Valley trail, including Sweetwater Lake, Sweetwater Dam, and Lookout Mountain, as scenic resources (County 2014b).

City of San Diego General Plan

The City of San Diego General Plan does not identify any specific "scenic vistas" within the community of Otay Mesa, which is the portion of the city that falls within the planning area (City of San Diego 2007). For purposes of this PEIR, a scenic vista is defined as a "highly valued landscape" identified within an adopted planning document. Instead, the General Plan identifies a community-wide goal of preserving privacy and views for Otay Mesa.

City of Chula Vista General Plan

The City of Chula Vista General Plan, Land Use and Transportation Element (Section 3.1, Scenic Resources and Open Space Network), identifies the following scenic resources that occur within the planning area: San Miguel and Mother Miguel mountains; Sweetwater Reservoir; Upper and Lower Otay reservoirs; and Otay River Valley.



Source: SanGIS 2016, ESRI 2016

ATKINS

Figure 4-8.1

San Diego County Community Planning Areas

100038569 2015 OWD WFMP Update - EIR

7/25/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.8-1 Community Planning Areas.mxd

4.8.3 Project Impacts and Mitigation

4.8.3.1 Issue 1 – Scenic Vistas

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following PDF to reduce potential impacts to scenic vistas.

Aes-PDF-1 In accordance with Water Agencies' Standards and standard operating procedures, the following design, landscaping and irrigation measures will be implemented for CIP projects:

i. Reservoirs, pump station buildings, and groundwater wells will use appropriate building materials and color palettes that visually blend the structures in with their surroundings (natural and urban).

ii. Reservoirs, pump station buildings, and groundwater wells will use low-reflective paint and glass.

iii. For portions of pipeline projects installed in naturally vegetated areas, the disturbance footprints for the pipeline corridor and associated staging areas will be hydroseeded, following backfilling and recontouring, using a non-irrigated native plant mix consistent with original site conditions and surrounding vegetation.

iv. For CIP reservoirs, pump stations, and groundwater wells in naturally vegetated settings, any disturbed unpaved areas following construction will be revegetated (hydroseeding and/or plantings) using native plant materials consistent with original site conditions and surrounding vegetation. A temporary irrigation system will be installed and maintained by OWD, or watering trucks shall be used at a frequency to be determined by OWD to maintain successful plant growth. Temporary irrigation will be discontinued upon OWD's determination that the landscaping has permanently established, without the need for supplemental watering.

v. For CIP reservoirs, pump stations and groundwater projects in urban settings, any disturbed unpaved areas following construction will be landscaped using plant materials consistent with original site conditions and/or surrounding ornamental vegetation. A permanent irrigation system will be installed and maintained by OWD.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if any of the CIP projects would have a substantial adverse effect on a scenic vista.

Impact Analysis

The County of San Diego, City of San Diego, and City of Chula Vista General Plans have identified "highly valued landscapes," which for the purpose of this analysis are defined as scenic topographic and aquatic

features, that occur within or adjacent to the planning area. In the following discussion, an evaluation of the relevant above-ground CIP projects that have the potential to impact a scenic vista is provided. CIP pipeline projects that are underground and, therefore, will not impact a scenic vista are not included in the discussion below. In addition to these pipeline projects, Table 4.8-1 identifies CIP projects that would not feature above-ground structures, or are in areas where development has already occurred, and are not discussed further.

Table 4.8-1 CIP Projects in Developed Areas

Project No.	System	Project Description	Capacity (MG)/ Length (ft)
P2058	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Rd - Pioneer/Campo (previously 24-in)	7,900
P2104	Central	PL - 12-in, 711 Zone, La Media Road - Birch/Rock Mountain	1,800
P2106	Central	PL - 12-in, 711 Zone, La Media Road - Rock Mountain/Otay Valley	4,500
P2107	Central	PL - 16-in, 711 Zone, Rock Mtn Road - La Media Road (previously 12-in)	3,800
P2116	Central	PL - 16-in, 711 Zone, Rock Mtn Road - SR 125/EastLake Pkwy (previously 12-in)	3,000
P2148	La Presa	PL - 16-in, 850 Zone, Jamacha Boulevard - Sweetwater Springs/Trace	5,200
P2150	Central	PL - 16-in, 458 Zone, East Palomar Street - Medical Center/Raven	900
P2190	Regulatory	PL - 12-in, 1485 Zone, Jamul Highlands	1,500
P2202	Regulatory	PS - 1296-1 Pump Station Expansion, from 2,900 to 6,000 gpm	6,450
P2203	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Road - Melody (previously 30-in)	3,100
P2204	Regulatory	PL - 20-in, 1296 Zone, Pioneer Way - Proctor Valley/1296 Reservoirs (previously 24-in)	3,100
P2233	La Presa	Res - 640-3 Emergency Reservoir, 10.0 MG	10
P2235	Central	Res - 624-4 Emergency Reservoir, 30.0 MG (previously 40 MG)	30
P2392	Central	PS - Lower Otay PS Replacement and Expansion, from 12,500 to 18,000 gpm	18,000
P2393	La Presa	PS - Pointe Hydro Pump Station Expansion, from 240 to 400 gpm	400
P2400	Central	PL - 20-in Pipeline Replacement, 711 Zone, Otay Lakes Road at Santa Paula	3,800
P2402	Central	PL - 16-in, 624 Zone, La Media Road - Village 7/Otay Valley	6,700
P2412	Regulatory	PL - 944/832 PRS Upgrade 944-1 Pump Station Site	--
P2437	Central	Dis 624-4 Disinfection Facility	--
P2482	Otay Mesa	Otay Mesa Lot 7 Groundwater Well System	--
P2516	La Presa	PL - 12-in, 640 Zone, Jamacha Road - Darby/Osage	2,500
P2517	Hillsdale	Helix - Otay Interconnection, Chase Avenue	--
P2554	Central	624/340 PRS at Energy Way and Nirvana Avenue	--
P2577	Central	PS - 980-2 Pump Station Expansion, from 12,000 to 16,000 gpm	4,000
P2578	Central	PS - 711-2 Pump Station (PS 711-1 replacement), from 10,000 to 14,000 gpm	14,000
P2580	Central	PL - 12-in, 980 Zone, Bob Pletcher Pkwy 125 Freeway Crossing	1,000
P2582	Central	PL - 20-in, 711 Zone, Eastlake Pkwy between Olympic and Birch Upsizing	2,400
P2583	Central	PL - 20-in, 624 Zone, Otay Mesa Interconnect 711 PRS Bypass	5,800
P2584	La Presa	Res - 657-1 and 657-2 Reservoir Demolitions	--
P2589	Otay Mesa	PL - 24-in, 871 Zone, Donovan Prison	600
R2037	Central	RecPL - 8-in, 680 Zone, La Media Road - Rock Mountain/Hunte Parkway	13,900
R2042	Central	RecPL - 8-in, 815 Zone, Rock Mountain Road - SR-125/Eastlake	2,690
R2043	Central	RecPL - 8-in, 815 Zone, Rock Mountain Road - La Media/SR 125	1,260

Table 4.8-1 CIP Projects in Developed Areas

Project No.	System	Project Description	Capacity (MG)/ Length (ft)
R2084	Central	RecPL - 20-in, 680 Zone, Village 2 - Heritage/La Media	3,000
R2085	Central	RecPL - 20-in, 680 Zone, La Media - State/Olympic	2,840
R2083	Central	RecPL - 20-in, 680 Zone Olympic Parkway - Heritage Road	110
R2047	Central	RecPL - 12-in, 680 Zone, La Media Road - Birch/Rock Mountain	1,265
R2079	Central	RecPL - 6-in, 450 Zone, Otay Valley Road, Entertainment, 680/450 PRS	4,000

San Miguel/Mother Miguel Mountains

The San Miguel and Mother Miguel mountains are located in the central portion of the planning area, and have peak elevations of 2,565 feet AMSL and 1,512 feet AMSL, respectively (Figure 4.8-2).

P2431: Res 980-4 would be located adjacent to the existing 1090-1 Reservoir, on an undeveloped foothill at the northern base of San Miguel Mountain.

P4231: Res 980-4 would be within the viewshed of San Miguel Mountain; however, since it would be placed immediately adjacent to an existing 500-gallon reservoir, the construction of the new reservoir would not substantially alter the existing viewshed, and with implementation of Aes-PDF-1, the impact to the scenic vista would be less than significant.

P2002: PS 1296-2 would be located along Proctor Valley Road, although its exact location has not yet been determined. Proctor Valley Road is a relatively flat undeveloped area with an approximate elevation of 800 feet AMSL. For purposes of this analysis, it is assumed P2002 would be situated approximately 1.5 miles southeast of San Miguel Mountain and approximately three miles east of Mother Miguel Mountain (Figure 4.8-2). With implementation of Aes-PDF-1, P2002 would not impact this scenic vista.

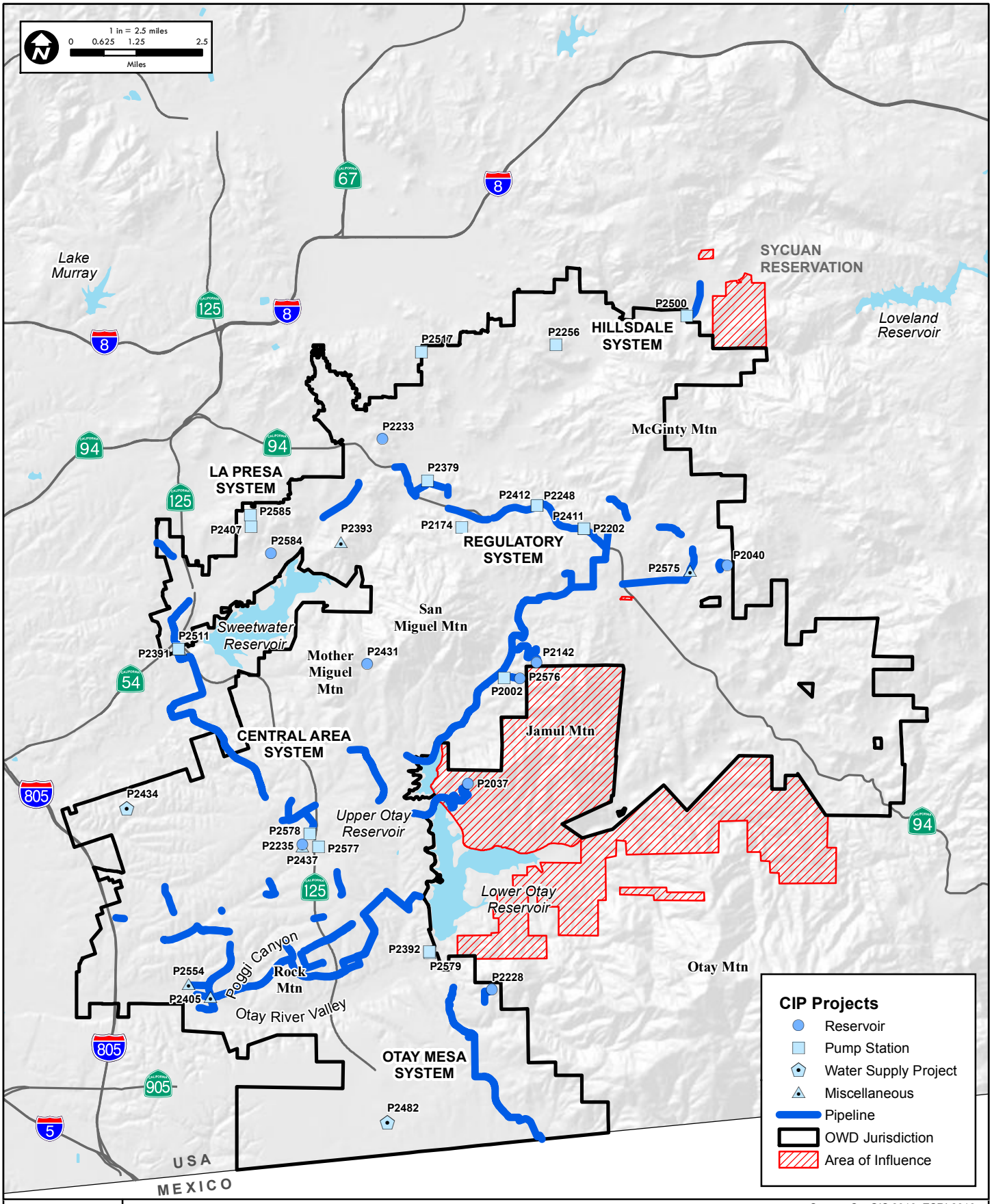
P2142: Res 1296-4 would be located on an undeveloped hill with an approximate elevation of 1,000 feet AMSL. P2142 would be situated approximately three miles east of San Miguel Mountain and approximately five miles east of Mother Miguel Mountain. With implementation of Aes-PDF-1, P2142 would not impact this scenic vista.

P2576: Res 980-5 in the Central Area System would be located just east of P2002 (PS 1296-2) in an undeveloped hill with an approximate 1,000 feet of elevation. With implementation of Aes-PDF-1, P2576 would not impact this scenic vista.

Jamul Mountains

The Jamul Mountains are located northeast of the Upper and Lower Otay reservoirs, the majority of which are just outside the central portion of the planning area (Figure 4.8-2). The peak of the Jamul Mountains is at 1,627 feet AMSL.

P2248: PS 944-1 pump expansion would be located approximately two miles northwest and northeast, respectively, of the Jamul Mountains. Due to the large distances from these mountains, this CIP project would not impact this scenic vista.



Source: SanGIS 2016, ESRI 2016

ATKINS

Figure 4.8-2

Scenic Resources withing the Planning Area

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.8-2 Scenic Resources.mxd

P2431: Res 980-4 would be located on a lower hilltop at the southwestern base of the Jamul Mountains, and would be clearly visible to viewers southwest of the reservoir. These viewers would consist of motorists along Otay Lakes Road and future residents of the planned Rolling Hills Ranch (refer to "Village 13" in Figure 3-2 of this PEIR), which would contain residential, commercial and other uses, as designated by the Chula Vista *Major Project and Redevelopment Areas* map (Chula Vista 2002). Due to the view orientation of drivers along Otay Lakes Road, P2431 (Res 980-4) is not expected to impact the scenic vista offered by the Jamul Mountains to these motorists. This is because, once constructed, the reservoir would blend into the overall landscape from the viewpoint of motorists who would tend to focus on the roadway. If P2431 (Res 980-4) is constructed prior to Rolling Hills Ranch, then it would be a part of the pre-existing landscape for these viewers, and it would not impact the scenic vista offered by the Jamul Mountains. However, if it is constructed after Rolling Hills Ranch, then the "starkness" of the new reservoir and associated grading could result in a significant impact to this scenic vista. Implementation of Aes-PDF-1 would minimize potential visual impacts to a less than significant level.

Sweetwater Reservoir

Sweetwater Reservoir is located approximately 9 miles southeast of the City of San Diego, just outside the westerly boundary of the planning area (Figure 4.8-2). The 28,100 acre-foot reservoir is formed by the Sweetwater Dam.

P2584: Demolition of the existing reservoir 657-1 would occur approximately one mile north of Sweetwater Reservoir. This project involves the removal of the existing reservoir and revegetation of the project site. No new structures would be constructed; therefore, no visual impacts to this scenic vista would occur.

P2585: This project would include 2 pump stations in undeveloped native soil about 2 miles north of Sweetwater Reservoir. The construction of P2585 would minimally impact visual aesthetics of the scenic vista.

P2407: A proposed pipeline improvement in undisturbed soil; the pipeline will have no visual impacts to the scenic vista.

P2391: Pump Station Perdue WTP would be constructed immediately west of the Sweetwater Reservoir, adjacent to the existing Robert A. Perdue WTP. The pump station would be constructed near the water treatment plant, within OWD facility property. The new pump station would visually blend in with the existing water treatment plant, which viewers in the area have already grown accustomed to as part of the landscape. Therefore, no visual impacts to this scenic vista would occur.

McGinty Mountain

McGinty Mountain is a small mountain located in the northeast portion of the planning area (Figure 4.8-2). The top of the peak has an elevation of 2,135 feet AMSL.

P2256: PS 978-2 would be located approximately 1.5 miles northwest of the base of McGinty Mountain, which contains several hills ranging in elevation from 600 feet AMSL to 800 feet AMSL running along both sides of the Sweetwater River valley. P2256 would be located at the site of the existing 803-3 Reservoir, on a small hill with an approximate elevation of 700 feet AMSL. Due to the placement of P2256 on a hilltop, this project may be visible to some viewers from various angles in the surrounding area. Since this pump station would be next to an existing reservoir and at a much lower elevation than McGinty

Mountain, and due to the large intervening distance and topography between the pump station and McGinty Mountain, implementation of P2256 would not impact this scenic vista.

P2379: This project would expand pump station 832-1 in undeveloped terrain that will have minimal effects on the scenic vista, due to the nature of the construction of the pump station.

Pipelines P2053, P2188, P2195, P2196, P2197, P2198, P2586, and P2587 would be built underground and therefore will have no impact on scenic vistas.

Upper and Lower Otay Reservoirs

The Upper and Lower Otay reservoirs are located approximately 8 miles east of Chula Vista and 20 miles southeast of San Diego, just outside the central portion of the planning area (Figure 4.8-2). When at capacity, Upper Otay Reservoir holds 20 surface acres of water, and Lower Otay Reservoir has 1,100 surface acres, a maximum water depth of 137.5 feet, and 25 shoreline miles. Due to their size and accessibility, these reservoirs are used by Olympic trainers, recreational fishermen, bicyclists and members of the community.

P2037: Construction of reservoir 980-3 located at the southwestern base of the Jamul Mountains, approximately one mile northeast of Upper and Lower Otay reservoirs. P2037 would be located on a lower hilltop within the mountain range. Because the orientation of the views from this reservoir would be towards the north, away from the Upper and Lower Otay reservoirs, implementation of P2037 would not impact this scenic vista.

Under the 2015 WFMP Update, the Lower Otay Pump Station would be adjacent to the southwest of the San Diego Otay Water Treatment Plant (OWTP), which is located at the southern tip of Lower Otay Reservoir, and the following three CIP projects would be located between 1.0 and 1.5 miles southeast of the Lower Otay Reservoir, within the western foothills of Otay Mountain: ~~Pump station P2083 (PS 870-2),~~ P2392~~,~~ and P2579. Storage project P2228 (Res 870-2) is also within the vicinity of southeast Lower Otay Reservoir. The pump station would be constructed at a lower elevation and down-gradient from the OWTP and Lower Otay Reservoir; therefore, this CIP project would not impact this scenic vista. Due to the large distance and intervening topography that exists between the Lower Otay Reservoir, ~~and P2083,~~ P2392 and P2579, these CIP projects would also not impact this scenic vista.

Poggi Canyon and Rock Mountain

Poggi Canyon and Rock Mountain are located in the City of Chula Vista within the southwest portion of the planning area, and north of Otay River Valley (Figure 4.8-2). The nearest above-ground CIP project to Poggi Canyon and Rock Mountain scenic resources would be located approximately three miles to the southeast (P2482). Due to the large distances from these natural features, this CIP project would not impact Poggi Canyon or Rock Mountain scenic vistas.

Otay River Valley

Otay River Valley traverses the southwest portion of the planning area extending from the Lower Otay Reservoir. The nearest CIP projects to the river valley would be P2579 Temporary Lower Otay PS Rehabilitation and P2392 Lower Otay PS Replacement and Expansion (adjacent to the City of San Diego OWTP at the southern tip of Lower Otay Reservoir) located about one-half mile to the northeast. Reservoir P2228 and P2374 (PS 870-2) (adjacent to the Richard J. Donovan State Correctional Facility and East Mesa

Detention Facility within San Diego County) are located about one mile to the southeast. Both projects would be constructed at higher elevations above the river valley. In addition, a ridgeline with an elevation of 400 feet AMSL runs between the river valley and the P2374 (PS 870-2) project site at approximately 350 feet AMSL) Due to the large distances from the natural features and intervening topography, these CIP projects would not impact this scenic vista.

Portions of P2589 and P2451 pipelines would be built in underdeveloped grassland and scrub territory, but will have no effect on the scenic vista as they will be built and installed underground.

Mitigation/Performance Measures

Implementation of Aes-PDF-1 would reduce the visual impacts of P2431 (Res 980-4), P2228 (Res 870-2), P2392 (LOPS), P2256 (PS 978-2), P2374 (PS 870-2), and P2391 (PS Perdue WTP) on scenic vistas within the OWD jurisdiction to a less than significant level.

4.8.3.2 Issue 2 – Visual Character and Quality

Project Design Features/Standard Construction Practices

Implementation of Aes-PDF-1 listed above in Section 4.8.3.1 (Issue 1) includes measures to reduce the potential impacts to visual character.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if any of the CIP projects would substantially degrade the existing visual character or quality of the project sites and their surroundings.

Impact Analysis

Implementation of the 2015 WFMP Update would result in temporary and permanent visual impacts. Temporary visual impacts would occur from construction of CIP projects, primarily through the removal or alteration of existing vegetation. Construction of CIP projects would involve the disturbance of ground cover, grading, excavation, material stockpiles, and the presence of construction equipment, all of which would temporarily degrade the pre-existing visual character at the CIP construction site and its surroundings. However, these impacts are temporary, and implementation of Aes-PDF-1 would ensure that all disturbed areas of the construction site remaining after completion of construction would either be hydroseeded (pipelines in naturally vegetated settings), revegetated (reservoirs and pump stations in naturally vegetated settings), or landscaped (reservoirs, pump stations, and groundwater wells in urban settings). All vegetated areas would be irrigated to ensure successful plant establishment. Therefore, implementation of Aes-PDF-1 would reduce visual impacts associated with CIP construction activities under the 2015 WFMP Update to a less than significant level.

The above-ground CIP projects (i.e., reservoirs, pump stations, and groundwater wells) would result in varying degrees of long-term, permanent visual impacts, as discussed below. The CIP pipeline projects, would not result in long-term, permanent visual impacts, as they would be placed underground.

Reservoir Projects

Reservoirs are typically the most visible of the CIP projects because the function of these facilities require them to be located at higher elevations, often on hillsides, hilltops, or ridges. The visual impacts of CIP reservoir projects would vary depending on the visibility of the project site; the degree of landform alteration required; the size, color and prominence of the reservoir; and the remaining existing vegetation or landscaping. Depending on the individual site characteristics, some of the CIP reservoir projects may be partially buried or located completely underground. In undeveloped areas, the steel or concrete material of the new reservoir can substantially alter the visual character of the existing natural setting. Table 4.8-2 lists the CIP reservoir projects that would occur in undeveloped areas.

Table 4.8-2 CIP Reservoir Projects in Undeveloped Areas

Project No.	Project Description	Capacity (MG)
Phase II (2017-2022) Potable Water Storage		
P2040	Res 1655-1	0.5
Phase III (2023-Ultimate) Potable Water Storage		
P2142	Res 1296-4	2
P2431	Res 980-4	8
P2576	Res 980-5	2
P2228	Res 870-2	7

MG = million gallons

Reservoir projects may also feature fencing and/or other above-ground appurtenances. Of the CIP projects listed in Table 4.8-1, P2431 (Res 980-4) will occur adjacent to existing reservoir facilities; therefore, the visual impacts of these projects may be lessened as viewers are already familiar with the existing structures within the natural landscape. P2040 (Res 1655-1) would be visible to existing and future residents of Rancho Jamul Estates. P2142 (Res 1296-4) would be visible to existing residents within the Whispering Meadows neighborhood approximately one-half mile to the north, and P2431 (Res 980-4) would be visible to future residents of the planned Rolling Hills Ranch (refer to "Village 13" in Figure 3-2 of this PEIR), which would contain residential, commercial and other uses, as designated by the Chula Vista *Major Project and Redevelopment Areas* map (Chula Vista 2002). Due to the view orientation of drivers along Otay Lakes Road, P2431 would not impact the views of these motorists because, once constructed, the reservoir would blend into the overall landscape from the viewpoint of motorists who would tend to focus on the roadway. In addition, implementation of OWD's standard requirements for landscaping and using natural color palettes for building materials (Aes-PDF-1) would ensure that the appearance of the proposed reservoirs, though visible, would not substantially degrade the existing visual character of the project sites and their surroundings.

Pump Station Projects

Similar to the CIP reservoir projects evaluated above, visual impacts associated with pump station projects would vary depending on the visibility of the project site, the degree of landform alteration required, the size of the pump station, and the remaining existing vegetation or landscaping. 2015 WFMP Update CIP pump station projects that would be constructed in undeveloped regions are discussed individually below.

P2002: As discussed in Section 4.8.3.1 above (Issue 1), the exact location of PS 1296-2 along the unpaved Proctor Valley Road is not known; however, for purposes of this analysis, it is assumed PS 1296-2 would

be situated at the location shown on Figure 4.8-2. In addition, with implementation of Aes-PDF-1, all disturbed areas of the construction site remaining after completion of construction would be revegetated and irrigated to ensure successful plant establishment. Because the surrounding area is undeveloped, and there are no reasonably foreseeable plans for development in this area, PS 1296-2 would not result in a significant visual impact.

P2248: PS 944-2 is a pump station expansion located in the north portion of the Regulatory System, within an undeveloped area. The expansion of this pump station will be to upgrade an existing pump station, therefore the impacts to the existing visual character will be minimal. Disturbed soil areas around the proposed pump station upgrade will be revegetated and irrigated for successful plant reestablishment. There will be no substantial visual impacts.

P2256: PS 978-2 is a pump station that would be located at the site of the existing (P2500) 803-3 Reservoir adjacent to the Sycuan Golf Resort, within an undeveloped area. The addition of this new pump station would be consistent with existing uses of the site, and would not represent a stark contrast in the landscape as viewed from visitors to the golf resort. In addition, with implementation of Aes-PDF-1, all disturbed areas of the construction site remaining after completion of construction would be revegetated and irrigated to ensure successful plant establishment. Therefore, PS 978-2 would not result in a significant visual impact.

P2379: PS 832-1 is a pump station upgrade located about 2 miles northeast of Sweetwater Reservoir in the Regulatory System region, within an undeveloped area. The expansion of this pump station will be to upgrade an existing pump station, therefore the impacts to the existing visual character will be minimal. Disturbed soil areas around the proposed pump station upgrade will be revegetated and irrigated for successful plant reestablishment. There will be no substantial visual impacts.

P2391: This pump station would be constructed directly west of the Sweetwater Reservoir, adjacent to the existing Robert A. Perdue WTP. The areas surrounding the proposed pump station and the water treatment facility are undeveloped. The new pump station would be consistent in appearance and scale with the existing reservoir and treatment plant and would therefore not result in a substantial alteration of the existing visual character.

P2585: PS 1200-2 is a new pump station that would be constructed a half mile directly north of Sweetwater Reservoir in an undeveloped scrub vegetated area. With implementation of Aes-PDF-1, disturbed construction areas would be revegetated and irrigated for successful plant reestablishment. PS 1200-2 would not result in a significant visual impact.

Water Supply Projects

Of the four water supply projects, two projects have the potential to create visual impacts to the surrounding areas, which are discussed below.

P2434: The Rancho Del Rey groundwater well would involve constructing a water treatment system to accompany an existing well located within Chula Vista, near the intersection of Rancho Del Rey Parkway and Terra Nova Drive. The treatment facility would be constructed within the existing site boundary. The site is located within a residential neighborhood and directly adjacent to a childcare facility. In addition, off-site sewer and water lines would be necessary to serve the project. With implementation of Aes-PDF-1, the new treatment facility would be visually screened with landscaping that is compatible with existing

vegetation. Therefore, the Rancho Del Rey groundwater well would not result in a significant visual impact.

P2482: The Otay Mesa Lot 7 groundwater well development project would involve constructing a water treatment system to accompany an existing well located in Otay Mesa and the installation of a distribution pipeline at the project site. The existing well is located within an industrial area, and the proposed water treatment facility would be consistent with existing uses of the site, and would be visually consistent with the land uses surrounding the site. Therefore, the Otay Mesa Lot 7 well would not result in a significant visual impact.

Mitigation/Performance Measures

Implementation of Aes-PDF-1 and any additional project-specific mitigation measures identified in subsequent CEQA documentation would reduce visual impacts resulting from construction activities and design of above-ground CIP projects under the 2015 WFMP Update to a less than significant level.

4.8.3.3 Issue 3 – Lighting and Glare

Project Design Features/Standard Construction Practices

Implementation of OWD's standard requirements for using low-glare building materials (Aes-PDF-1) would ensure that the CIP projects would not result in a source of substantial new light or glare.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if any of the CIP projects would create a new source of substantial light or glare that would adversely affect day or nighttime views in the immediate vicinity of the CIP projects. Impacts of lighting on biological resources are discussed in Section 4.2 (Biological Resources) of this PEIR.

Impact Analysis

It is anticipated that any nighttime lighting associated with reservoirs, pump stations and groundwater wells would be limited to emergency lighting that would typically be activated only in emergency situations, such as the repair of a leak that occurs at night. Therefore, none of the above-ground CIP projects under the 2015 WFMP Update are expected to create a new source of substantial nighttime lighting that would adversely affect nighttime views.

Potential impacts from glare would primarily occur from the sunlight reflecting from the reservoir, pump station or groundwater well building surfaces. Daytime views that could be subject to the effects of new sources of glare would include the following residential, institutional and recreational areas (in the vicinity of the identified CIP projects): Rancho Jamul Estates (P2040), Whispering Meadows neighborhood (P2142), Richard J. Donovan State Correctional Facility (P2228), and Sycuan Golf Resort (P2500). However, with implementation of Aes-PDF-1, low-reflective paint and glass would be used, reducing impacts from glare to less than significant levels.

Mitigation/Performance Measures

Implementation of Aes-PDF-1 would reduce potential impacts associated with daytime glare from new reservoirs and pump stations under the 2015 WFMP Update to a less than significant level; therefore, no mitigation is required.

4.8.4 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2015 WFMP Update

Would implementation of any CIP projects under the 2015 WFMP Update substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

A "state scenic highway" refers to any interstate, state, or county road that has been officially designated as scenic and thereby requires special scenic conservation treatment. No officially designated state scenic highways occur within the planning area. A portion of SR-125, between I-8 and SR-94, is designated as a state scenic highway; however, this portion is not within the planning area. SR-94, which does pass through the planning area, is considered to be an "eligible" state scenic highway although it is not yet officially designated as such. In addition, the Chula Vista General Plan designates the following scenic roadway segments within the Central Area System of the planning area:

- East H Street from I-805 to Mount Miguel Road
- Proctor Valley Road from Mount Miguel Road east to Jamul
- Telegraph Canyon Road/Otay Lakes Road from I-805 to Lower Otay Reservoir
- Olympic Parkway
- Otay Lakes Road from Bonita Road to Telegraph Canyon Road

P2434 is located just north of the East H Street segment. Existing development is located between the project and the scenic roadway segments which would screen views of the project from motorists traveling along these roads. Therefore, implementation of P2434 would not impact views from state scenic highways or Chula Vista scenic roadways; no further analysis is required.

4.8.5 References

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City of San Diego. 2007. Final Program Environmental Impact Report (PEIR) for the Draft General Plan. Section 3.16: Visual Effects and Neighborhood Character. September.

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4.9 Land Use and Planning

This section of the PEIR for the 2015 WFMP Update describes existing conditions within the planning area with respect to land use and planning; the potential physical environmental effects (direct, indirect, and/or cumulative) related to these issues resulting from development of CIP projects under the 2015 WFMP Update; and the project design features, standard construction practices, and mitigation/ performance measures to reduce or avoid the identified impacts. It should be noted that OWD will consult with USFWS and CDFW prior to the siting of any facility or pipeline. Wherever possible pipelines will be located within roads, easement, or disturbed areas and will comply with land use guidelines. ~~Because the CIP pipelines would be buried, it is not necessary to consider these projects in this land use analysis.~~

4.9.1 Existing Land Uses

The planning area spans across three major jurisdictional areas: County of San Diego, City of San Diego, and City of Chula Vista. Because it is not practical to describe the existing land uses within the entire planning area, this section describes the existing land uses at and surrounding each of the CIP storage, pump station, water supply, and other CIP miscellaneous projects under the 2015 WFMP Update. The 2015 WFMP Update considers two major timelines or phases for implementation of the recommended CIP projects: Phase II (2017-2022) and Phase III (2013-2050). The Phase II and III CIPs are listed in Table 3-1. The recommended projects to be implemented during Phases II and III are summarized below.

4.9.1.1 Potable Water Storage CIP Projects

Regulatory System

P2040: This new reservoir would be located within the Regulatory System of the planning area, within the Rancho Jamul Estates in San Diego County. The Res 1655-1 site is undeveloped. Although existing homes within the Rancho Jamul Estates are located approximately 600 feet southeast of the proposed project site, the Jamul/Dulzura CPA designates multiple rural and semi-rural uses within and surrounding the site (County 2004a).

P2142: This new reservoir would be located within the Regulatory System of the planning area. Res 1296-4 would hold 2 MG of water and be constructed within Village 14 in an area that is currently undeveloped. The new reservoir would be built in an area designated as Open Space and for recreational use.

La Presa System

P2584: Existing reservoirs Res 657-1 and 657-2 currently within La Presa System are to be demolished during Phase III of project scheduling. The reservoirs are in an area of existing residential land use.

P2233: This new reservoir would be located within the La Presa System of the planning area, adjacent to the existing 640-1 and 640-2 reservoirs within San Diego County. The Res 640-3 site is currently undeveloped. Residences and Cuyamaca College are located less than a mile to the west and east of the site, respectively.

Central Area System

P2037: This new reservoir would be located within the Central Area System of the planning area, within the Village 13 community planning development. The Res 980-3 would be a 4 MG reservoir that would be built in an area of influence, near the Open Space Preserve. Village 13 is currently undeveloped but is designated for residential development neighboring the Open Space Preserve.

P2431: This new reservoir would be located within the Central Area System of the planning area, within Chula Vista. The Res 980-4 site and adjacent areas are undeveloped. However, the Chula Vista Major Project and Redevelopment Areas Map designates these adjacent areas as the future site of the Rolling Hills Ranch, which would contain residential, commercial, and other uses (Chula Vista 2002).

P2576: This new reservoir would be located within the Central Area System of the planning area, within the new residential development of Village 14, near new residential Village 13. The Res 980-5 site and adjacent areas are undeveloped.

P2228: This new reservoir would be located within the Central Area System of the planning area, to the southeast of the southern-most portion of Lower Otay Lake. The Res 870-2 site and adjacent areas are undeveloped.

P2235: This new reservoir would be located within the Central Area System of the planning area, within the Rolling Hills Ranch residential neighborhood, slightly northwest of the Upper Otay Reservoir. The Res 624-4 would act as an emergency reservoir. Although existing homes within the Rolling Hills Ranch residential neighborhood are in near proximity of the proposed project site, the Chula Vista CPA designates additional Sectional Planning Area uses within and surrounding the site (Chula Vista 2015).

Otay Mesa System

P2228: This new reservoir would be located within the Otay Mesa System of the planning area, adjacent to the existing 870-1 Reservoir, Richard J. Donovan State Correctional Facility, and East Mesa Detention Facility within San Diego County. The Res 870-2 site is undeveloped, with the exception of a chlorine disinfection station that may need to be removed or relocated prior to construction of the 870-2 Reservoir.

4.9.1.2 Potable Water Pump Station CIP Projects

Regulatory System

P2002: This pump station expansion project would be located within the Regulatory System of the planning area. The 1296-1 pump station would be expanded from 2,900 to 6,000 gpm. The proposed project site is located in a rural residential area.

P2202: This pump station expansion project would be located within the Regulatory System of the planning area. The 1296-1 pump station would be expanded from 2,900 to 6,000 gpm. The proposed project site is located in a mixed use development area.

P2248: This pump station expansion project would be located within the Regulatory System of the planning area. The 944-1 pump station would be expanded from 3,000 to 6,000 gpm and is currently in an area that is undeveloped.

P2379: This pump station expansion project would be located within the Regulatory System of the planning area. The 832-1 pump station would be expanded from 3,000 to 6,000 gpm and is currently in an area that is undeveloped.

La Presa System

P2393: This pump station expansion project would be placed within the La Presa System. The Pointe Hydro Pump Station would be expanded from 240 to 400 gpm. The proposed project site is one mile north of Sweetwater Reservoir in a mixed use developed area.

P2585: This new pump station would be located within the La Presa System of the planning area. The 1200-2 pump station site is currently in an area that is undeveloped.

Hillsdale System

P2256: This new pump station would be located within the Hillsdale System of the planning area, adjacent to the existing 803-3 Reservoir within San Diego County. The 978-2 site is undeveloped and surrounded by coastal scrub vegetation near the Sycuan Golf Resort.

Central Area System

P2391: This new pump station would be located within the Central Area to La Presa System of the planning area, adjacent to the existing Robert A. Perdue Water Treatment Facility and the Sweetwater Reservoir within San Diego County. The Perdue WTP pump station site would be located on OWD facility property. The area surrounding the site is undeveloped and surrounded by coastal scrub vegetation but near a developed area.

P2577: This pump station expansion project would be located within the Central Area System about 2 miles west of the Lower Otay Lake. The 980-2 pump station would be expanded from 12,000 to 16,000 gpm. The proposed project site is in an area currently designated as developed residential land use in Chula Vista.

P2578: The existing 711-1 pump station would be replaced by a new pump station located in the Central Area System of the planning area. The 711-2 pump station would be expanded from 10,000 to 14,000 gpm. The proposed project site is in an area currently designated as developed residential land use in Chula Vista.

P2392: This new pump station would be located within the Central Area System of the planning area, adjacent to the existing LOPS (operated by the OWD) and southwest of the Otay Water Treatment Plant, which is owned and operated by the City of San Diego. The area surrounding the site is undeveloped. In addition, lands to the west of this project site are designated “Conserved (Subject to Agreement with Wildlife Agencies)” in the Chula Vista MSCP Subarea Plan. These “Conserved” areas are included within the USFWS San Diego National Wildlife Refuge (NWR), Otay-Sweetwater Unit, and the Otay Valley Regional Park (OVRP) Concept Plan.

P2579: The temporary pump station would be placed a quarter mile southwest of Lower Otay Lake within the Central Area System of the planning area. The temporary LOPS rehabilitation site is surrounded by undeveloped coastal scrub territory. The region is under mixed land use, some developed, and residential land use.

4.9.2 Regulatory Framework

4.9.2.1 State

According to Section 53091 of the California Government Code, building and zoning ordinances (and by inference the planning policies of local land use agencies) do not apply to the location or construction of facilities used for the production, generation, storage, or transmission of water. Nevertheless, a discussion of the plans and policies that support the provision of water infrastructure is provided below.

4.9.2.2 Local

San Diego County Water Authority Act

The OWD is a member agency of the SDCWA, which is governed primarily by the County Water Authority Act (Stats. 1943, c. 545). This Act mandates the SDCWA to provide water to meet the needs of member agencies in its service area. As defined under Section 53091 of the California Government Code, the SDCWA and its member agencies, including OWD, are not subject to local land use plans, policies, and ordinances; however, for the purposes of CEQA analysis, local land use planning documents are addressed in this PEIR.

County of San Diego General Plan

The County of San Diego General Plan identifies long-range goals and policies for the comprehensive development of land within its jurisdiction. The following six specific elements are included within the County General Plan: Land Use, Conservation and Open Space, Mobility, Housing, Safety and Noise. The County of San Diego subdivides its jurisdictional area into Subregional Plan Areas and CPAs, five of which reside within the WFMP planning area (refer to Figure 4.8-1 of this PEIR). Subregional and community plans are used to focus the General Plan goals and policies to the specific or unique circumstances existing in individual communities throughout the county. Each community plan incorporates the goals and policies developed by the community to ensure that they will be compatible with those found in the General Plan. Subregional and community plans relevant to the WFMP planning area are discussed below.

Crest/Dehesa/Harbison Canyon/Granite Hills Community Plan

The Crest-Dehesa CPA is approximately 33 square miles in size and encompasses the communities of Crest, Granite Hills, Dehesa, and Harbison Canyon. The autonomous Sycuan Indian Reservation also resides within the geographic boundary of this CPA. The relevant land use policies for this CPA are contained in the Crest-Dehesa/Harbison Canyon/Granite Hills Community Plan, which was adopted on August 3, 2011. The following policies from the Circulation and Mobility and Safety chapters of this community plan support the provision of water infrastructure:

- **Circulation and Mobility Goal CM 7.1 –** the Infrastructure and Utilities subsection states that all sufficient quantities of imported water shall be available for all development planned within the boundaries of the SDCWA.

  Policy CM 7.1.1 under the Infrastructure and Utilities subsection states that coordination is required for the delivery of imported water service to Dehesa, along with the provision of infrastructure adequately sized so that service cam be provided to all land within the SDCWA in a cost effective manner.

Policy CM 7.1.2 under the Infrastructure and Utilities subsection states that high water use activities, such as golf courses, shall be designed to minimize the need for irrigation and to use recycled water. Limit the area or irrigated landscaping for a new golf course to the fairways.

- **Safety Goal S 1.1** – the Wildlife Fire/Urban Fire subsection states that loss of life and property from unique fire hazard potential shall be minimized within the community area.

  Policy S.1.1 under the Wildlife Fire/Urban Fire subsection states that new development utilizing imported water are required to provide infrastructure for fire suppression, such as pipes and hydrants, in accordance with prevailing standards.

Jamul-Dulzura Subregional Plan

This CPA covers approximately 168 square miles and contains several small communities, including Jamul, Steel Canyon, Dulzura, and Barrett Junction. The relevant land use policies for this CPA are contained in the Jamul/Dulzura Subregional Plan, which was originally adopted on December 19, 1979, amended on January 11, 1995, and was readopted on August 3, 2011 with the General Plan Update. The following policies from the Conservation Chapter of this subregional plan support the provision of water infrastructure:

- **Conservation Goal 5 –** the Conservation Chapter states that environmental resources in the Jamul/Dulzura area shall be carefully managed to maintain them for future needs.

  Policy 3 under Goal 5 states that strict controls over land use in areas not served by imported water should be supported in order to ensure the long-term availability of groundwater resources. When necessary, groundwater survey reports should be required and should meet the minimum standards specified in the County Groundwater Ordinance.

  Policy 4 under Goal 5 states that a large scale groundwater study in the Jamul/Dulzura Subregional Plan to clearly evaluate the capabilities of the local groundwater supply should be prepared at the earliest possible date.

Otay Subregional Plan

This CPA covers an area of approximately 23,000 acres within southern San Diego County, encompassing portions of Otay, Jamul/Dulzura, Proctor Valley, and the San Ysidro Mountain area. The relevant land use policies for this CPA are contained in the Otay Subregional Plan, which was originally adopted on May 18, 1983, amended on July 27, 1994, and was readopted on August 3, 2011 with the General Plan Update. The following policy from the Public Services and Facilities Element of this subregional plan supports the provision of water infrastructure:

- Policy 3 under the Resolve Water Demand and Supply subsection states that the county will encourage and support studies with the intent of determining the CPA's ultimate water demand, the most logical service provider, cooperation between agencies, and the use of reclaimed water.

Sweetwater Community Plan

This CPA covers portions of unincorporated San Diego County south of SR-54, east of I-805 (with a minimal portion west of I-805), north of Chula Vista, and west of the Jamul-Dulzura CPA (refer to Figure 4.8-1 of this PEIR). It is approximately 8,000 acres in size. The relevant land use policies for this CPA are contained in the Sweetwater Community Plan, which was originally adopted on August 25, 1977, amended on

October 28, 1993, and was readopted on August 3, 2011 with the General Plan Update. The following policy from the Public Facilities Element of this community plan supports the provision of water infrastructure:

- Policy 9 encourages optimum water and sewer reclamation and water conservation.

Spring Valley Community Plan

This CPA encompasses a geographic area of approximately 11 square miles within unincorporated San Diego County and includes the neighborhoods of Bancroft, Brookside, Spring Valley, Lakeside, La Presa, Dictionary Hill, Rancho San Diego, and Sweetwater Village. The relevant land use policies for this CPA are contained in the Spring Valley Community Plan, which was originally adopted on May 15, 1989, and amended most recently on June 18, 2014. This community plan does not contain any relevant policies that support the provision of water infrastructure.

City of San Diego General Plan

The City of San Diego General Plan was originally adopted in 1979, and recently amended in 2015. The recently amended version of this General Plan was completed utilizing sustainable design principles referred to as the "City of Villages" strategy. This strategy involves integrating a new element into the City General Plan (the Strategic Framework Element), including the Mobility, Urban Design, Economic Prosperity, Public Facilities, Services and Safety, Recreation, Conservation, Noise, and Historic Preservation elements. The main goal of the recently amended version of the City General Plan is to guide development and growth within the city over the next 20 years, and reverse or at least slow trends of sprawl such that the city's various communities become more linked through transportation corridors.

The south-central portion of the WFMP planning area is within the jurisdiction of the City of San Diego. The City General Plan has several policies that support the provision of water infrastructure. All of these policies are included within the Public Facilities, Services and Safety Element and are listed below for reference:

- **PF H.1.** Optimize the use of imported water supplies and improve reliability by increasing alternative water sources to: provide adequate water supplies for present uses; accommodate future growth; attract and support commercial and industrial development; and supply local agriculture.
    a. Prepare, implement, and maintain, long-term comprehensive water supply plans and options in cooperation with the appropriate state and federal agencies, regional authorities, water utilities, and local governments.
    b. Develop, coordinate, facilitate, and implement water conservation plans and projects that are sustainable in reducing water demands.
    e. Continue to develop the recycled water customer base, and expand the distribution system to meet current and future demands.
    g. Optimize storage, treatment and distribution capacity of potable water systems.

- **PF H.2.** Provide and maintain essential water storage, treatment, supply facilities and infrastructure to serve existing and future development.
- **PF H.3.** Coordinate land use planning and water infrastructure planning with local, state, and regional agencies to provide for future development, maintain adequate service levels, and develop water supply options during emergency situations.

City of Chula Vista General Plan

The Chula Vista General Plan was comprehensively updated in December 2005. It includes the following six elements: Land Use and Transportation, Economic Development, Housing, Public Facilities and Services, Environmental, and Growth Management. The southwest portion of the planning area is within Chula Vista. The Public Facilities and Services Element of the General Plan includes the following policies that support the provision of water infrastructure:

- **PFS 1.1.** Coordinate with water districts by providing growth forecast information to allow the districts to plan and design water facilities and ensure adequate supply needed to accommodate anticipated growth.
- **PFS 1.5.** Accelerate infrastructure upgrades throughout the city, especially in older portions of western Chula Vista, as growth places additional demands on existing, potentially sub-standard facilities.
- **PFS 3.4.** Encourage the development of new technologies and the use of new sources to meet the long-term water demands in Chula Vista.

Multiple Species Conservation Programs

Portions of the WFMP planning area occur within the planning areas of the County of San Diego, City of Chula Vista, and City of San Diego MSCPs (refer to Figure 4.2-2 of this PEIR). MSCPs are regional conservation plans designed to establish connected preserve systems to ensure long-term survival of sensitive plant and animal species, and to protect the native vegetation communities in which they are located. MSCPs address potential impacts of urban growth, natural habitat loss, and species endangerment, and create plans to mitigate for the potential loss of sensitive species and their habitats. Each jurisdiction has its own subarea plan which describes specific implementing mechanisms for the MSCPs.

The County of San Diego MSCP Subarea Plan was approved in October 1997. The City of San Diego MSCP Subarea Plan (approved in July 1997) covers 582,243 acres and encompasses 11 city jurisdictions, portions of unincorporated San Diego County, and a few special districts. The City of Chula Vista MSCP Subarea Plan was approved and adopted in May 2003. As depicted on Figure 4.2-2 of this PEIR, the “Conserved” areas (County of San Diego and City of Chula Vista MSCPs) shown in pink, “Hardline Preserve” (City of San Diego MSCP) areas shown in green, and the “Pre-Approved Mitigation” (City of San Diego MSCP) areas shown in purple, represent the protected open space reserves within the WRMP planning area to which the respective agencies’ MSCP Land Use Adjacency Guidelines would apply (refer to Section 4.9.3.1 below).

Both the Otay-Sweetwater Unit of the San Diego NWR and the OVRP encompass portions of “Conserved” areas identified in the Chula Vista MSCP Subarea Plan, generally located along the Otay River Valley in the southwest portion of the planning area. The entire San Diego NWR comprises 44,000 acres and contains

important preserves of coastal sage and chaparral habitats. The OVRP Concept Plan is a multi-jurisdictional preserve planning effort between the County of San Diego, City of Chula Vista, and City of San Diego. The OVRP would extend about 11 miles between the southeast edge of the salt ponds at San Diego Bay and the Lower Otay Reservoir, including lands surrounding both Lower and Upper Otay reservoirs. The concept plan is intended to complement the Chula Vista MSCP Subarea Plan and San Diego NWR, and provide policy direction for coordinated land acquisition and development of the OVRP.

OWD is not a signatory to the implementing agreements of any of the above-mentioned MSCP subarea plans but generally complies with the requirements of the Plans.

4.9.3 Project Impacts and Mitigation

4.9.3.1 Issue 1 – Conflicts with Habitat Conservation and Natural Communities Conservation Plans

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following PDFs to reduce potential impacts associated with conflicts with HCPs or NCCPs.

LU-PDF-1 The design of CIP reservoirs, pump stations and water supply projects located within and adjacent to the "Conserved (Subject to Agreement with Wildlife Agencies)" areas under the County of San Diego MSCP (refer to Figure 4.2-2 of this PEIR) will incorporate the following guidelines:

i. Plant materials used for landscaping will consist of native species similar/compatible with the adjacent habitat, and those species should be based on plants with genetic materials of the area.

ii. Fencing will be installed along the reserve boundary to prevent uncontrolled human access.

iii. <u>Lighting within 100 feet of reserve boundary will be confined to areas necessary for public safety.</u>

LU-PDF-2 The design of CIP reservoirs, pump stations, and water supply projects located within and adjacent to the "Hardline Preserve" and "Pre-Approved Mitigation" areas under the City of San Diego MSCP (refer to Figure 4.2-2 of this PEIR) will incorporate the following guidelines:

i. Drainage will be directed away from the reserves so as to avoid the release of toxins, chemicals, and petroleum products in storm water runoff that might degrade or harm the natural environment or ecosystem processes.

ii. Barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) will be installed along the reserve boundary to prevent uncontrolled human access.

iii. Plant materials used for landscaping will consist of native species similar/compatible with the adjacent habitat, and those species should be based on plants with genetic materials of the area.

iv. Lighting of all developed areas adjacent to the reserves shall be directed away from the preserve wherever possible.

v. Manufactured slopes associated with site development shall be included within the development footprint for projects within or adjacent to the reserve.

LU-PDF-3 The design of CIP reservoirs, groundwater wells, pump stations, and water supply projects located within and adjacent to the "Conserved" areas under the City of Chula Vista MSCP (refer to Figure 4.2-2 of this PEIR) will incorporate the following guidelines:

i. Through the use of detention basins, drainage will not be discharged directly into the reserves so as to avoid the release of toxins, chemicals, and petroleum products in storm water runoff that might degrade or harm the natural environment or ecosystem processes.

ii. Plant materials used for landscaping will consist of native species that reflect the adjacent native habitat, and non-native plant species will not be introduced into landscaped areas adjacent to the reserves.

iii. Barriers (fencing, rock/boulders, vegetation) and/or signage will be installed to direct public access to appropriate locations.

iv. Lighting of all developed areas adjacent to the reserves shall be directed away from the preserve wherever possible.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if it would conflict with any applicable HCPs or NCCPs.

Impact Analysis

As described in Section 4.9.1.1 above, P2002 would be located within the Jamul Mountain Ecological Reserve under the County of San Diego MSCP. In addition, the following CIP projects under the 2015 WFMP Update would be located within or adjacent to the MSCP preserves identified in Figure 4.2-2 of this PEIR: P2379, P2248, P2412, P2411, P2202, P2393, P2431, P2142, P2576, P2002, P2037, P2579, P2392, and 2228. In addition, lands to the west of LOPS are designated "Conserved (Subject to Agreement with Wildlife Agencies)" in the Chula Vista MSCP Subarea Plan. These "Conserved" areas are included within the Otay-Sweetwater Unit of the San Diego NWR and the OVRP Concept Plan. However, implementation of LU-PDF-1 through LU-PDF-3, Noi-PDF-1, and mitigation measure Bio-1C would incorporate the respective land use adjacency guidelines of the County of San Diego, City of Chula Vista, City of San Diego MSCP Subarea Plans, including but not limited to, landscaping with native plants indigenous to the area; fencing or other barriers to prevent uncontrolled human access; installation of drainage features to prevent discharge of stormwater runoff pollutants; installation of acoustical louvers in pump station buildings to reduce operational noise levels; and temporary noise walls or berms to reduce construction noise levels. Although the LOPS project site is not located within the Chula Vista MSCP Subarea Plan, it would nevertheless be considered a "conditionally compatible use" under the plan, and would therefore not preclude habitat preservation or recreational uses identified within adjacent areas of the San Diego NWR or OVRP. Therefore, implementation of LU-PDF-1 through LU-PDF-3, Noi-PDF-1, and mitigation

measure Bio-1C would reduce potential indirect impacts to biological resources in and adjacent to the MSCP reserves, and potential conflicts with these HCPs/NCCPs, to below a level of significance.

Mitigation/Performance Measures

Implementation of LU-PDF-1 through LU-PDF-3, Noi-PDF-1, and mitigation measure Bio-1C would reduce potential indirect impacts to biological resources in adjacent MSCP reserves, and potential conflicts with applicable HCPs and NCCPs resulting from construction, development and long-term operations of CIP projects under the 2015 WFMP Update to a less than significant level; therefore, no mitigation is required.

4.9.4 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2009 WRMP Update

Would implementation of any of the CIP projects under the 2015 WFMP Update physically divide an established community?

The following CIP projects would be implemented in undeveloped areas and thus would not divide an already established community: P2037, P2040, P2142, P2228, P2233, P2002, P2256, P2585, P2202, P2248, and P2379. The following CIP projects would be implemented on OWD property adjacent to existing OWD facilities, and thus would not divide an established community: P2391 and P2392. Therefore, no further analysis is required.

Would implementation of the 2015 WFMP Update conflict with any land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Subsections (d) and (e) within Section 53901 of the California Government Code state that local agency building and zoning ordinances (and by inference the planning policies of local land use agencies) do not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water. Therefore, implementation of the 2015 WFMP Update would not conflict with any land use plan, policy, or regulation of the County of San Diego, City of San Diego, or City of Chula Vista. Furthermore, as outlined in Section 4.9.2.2 above, there are many policies within these agency general plans that support the provision of water infrastructure. Therefore, no further analysis is required.

4.9.5 References

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County of San Diego Department of Planning and Land Use (County). 2011c. Sweetwater Community Plan. August 3, 2011 (with latest amendments adopted June 2014).

County of San Diego Department of Planning and Land Use (County). 2011d. Otay Subregional Plan. August 3, 2011.

County of San Diego Department of Planning and Land Use (County). 2011e. Jamul/Dulzura Subregional Plan. August 3, 2011 (with latest amendments adopted June 2014).

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County of San Diego Department of Planning and Land Use (County). 2015. Spring Valley Community Planning Area. November 2015. Accessed from www.sdcounty.ca.gov/dplu/gpupdate/comm/springvly.html

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4.10 Noise

This section of the PEIR for the 2015 WRMP Update describes existing conditions within the planning area with respect to noise; the potential physical environmental effects (direct, indirect, and/or cumulative) related to these issues resulting from development of CIP projects under the 2015 WRMP Update; and the project design features, standard construction practices, and mitigation/performance measures to reduce or avoid the identified impacts. Refer to Section 4.2 (Biological Resources) of this PEIR for a discussion of potential noise impacts associated with noise-sensitive avian species.

4.10.1 Environmental Setting

4.10.1.1 Fundamentals of Environmental Noise

Noise is commonly defined as unwanted sound. Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). Sound pressures in the environment have a wide range of values and the sound pressure level was developed as a convenience in describing this range as a logarithm of the sound pressure. To be consistent throughout the world, the sound pressure level is the logarithm of the ratio of the unknown sound pressure to an agreed upon reference quantity of the same kind. To account for the pitch of sounds and the corresponding sensitivity of human hearing to them, the raw sound pressure level is adjusted with an A-weighting scheme based on frequency that is stated in units of decibels (dBA).

A given level of noise may be more or less tolerable depending on the sound level, duration of exposure, character of the noise sources, the time of day during which the noise is experienced, and the activity affected by the noise. For example, noise that occurs at night tends to be more disturbing than that which occurs during the day because sleep may be disturbed. Additionally, rest at night is a critical requirement in the recovery from exposure to high noise levels during the day. In consideration of these factors, different measures of noise exposure have been developed to quantify the extent of the effects anticipated from these activities. For example, some indices consider the 24-hour noise environment of a location by using a weighted average to estimate its habitability on a long term basis. Other measures consider portions of the day and evaluate the nearby activities affected by it as well as the noise sources. The most commonly used indices for measuring community noise levels are the Equivalent Energy Level (Leq), and the Community Noise Equivalent Level (CNEL).

- **Leq**, the Equivalent Energy Level, is the average acoustical or sound energy content of noise, measured during a prescribed period, such as 1 minute, 15 minutes, 1 hour, or 8 hours. It is the decibel sound level that contains an equal amount of energy as a fluctuating sound level over a given period of time.
- **CNEL**, Community Noise Equivalent Level, is the average equivalent A-weighted sound level over a 24-hour period. This measurement applies weights to noise levels during evening and nighttime hours to compensate for the increased disturbance response of people at those times. CNEL is the equivalent sound level for a 24-hour period with a +5 dBA weighting applied to all sound occurring between 7:00 p.m. and 10:00 p.m. and a +10 dBA weighting applied to all sound occurring between 10:00 p.m. and 7:00 a.m.

The decibel level of sound decreases (or attenuates) exponentially as the distance from the source of the sound increases. For a single point source such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA for each doubling of distance from the source. Sound that originates from a linear, or "line" source such as a heavily traveled traffic corridor, attenuates by approximately 3 dBA per doubling of distance, provided that the surrounding site conditions lack ground effects or obstacles that either scatter or reflect noise. Noise from roadways in environments with major ground effects due to vegetation and loose soils may either absorb or scatter the sound yielding attenuation rates as high as 4.5 dBA for each doubling of distance. Other contributing factors that affect sound reception include meteorological conditions and the presence of manmade obstacles such as buildings and sound barriers.

Noise has a significant effect on the quality of life. An individual's reaction to a particular noise depends on many factors such as the source of the noise, its loudness relative to the background noise level, and the time of day. The reaction to noise can also be highly subjective; the perceived effect of a particular noise can vary widely among individuals in a community. Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is perceivable, while 1 to 2 dBA changes generally are not perceived. Although the reaction to noise may vary, it is clear that noise is a significant component of the environment, and excessively noisy conditions can affect an individual's health and well-being. The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on a community can be organized into six broad categories: sleep disturbance; permanent hearing loss; human performance and behavior; social interaction of communication; extra-auditory health effects; and general annoyance.

Community noise environments are typically represented by noise levels measured for brief periods throughout the day and night, or during a 24-hour period (i.e., by DNL/Ldn or CNEL). The one-hour period is especially useful for characterizing noise caused by short-term events, such as operation of construction equipment or concert noise (i.e., with Leq). Community noise levels are generally perceived as quiet when the Ldn is below 50 dBA, moderate in the 50 to 60 dBA Ldn range, and loud above 60 dBA Ldn. Urban residential areas are usually above 65 dBA Ldn. Along major thoroughfares, roadside noise levels are typically between 65 and 75 dBA Ldn.

4.10.1.2 Fundamentals of Environmental Vibration

Vibration consists of waves transmitted through solid material (Baranek and Ver 1992). Ground-borne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be comprised of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hertz (Hz). The normal frequency range of most ground-borne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz.

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. Ambient and source vibration are often expressed in terms of the peak particle velocity (PPV) or root mean square (RMS) velocity in inches per second (in/sec) that correlates best with human perception. The Federal Transit Administration (FTA) estimates that the threshold of perception is approximately 0.0001 in/sec RMS and the level at which continuous vibrations begins to annoy people is approximately 0.001 in/sec RMS (FTA 2006).

Ground-borne vibration can be a concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving and operating heavy earth-moving equipment.

The rumbling sound caused by the vibration of building structures is referred to as ground-borne noise. The annoyance potential of ground-borne noise is usually characterized with the A-weighted sound level, which is intended to represent the response of the human ear. However, there are potential problems when characterizing low-frequency noise using A-weighting, because human hearing causes sounds dominated by low-frequency components to seem louder than broadband sounds that have the same A-weighted level. This is accounted for by setting the limits for ground-borne noise lower than would be the case for broadband noise. Other weighting schemes may be used in other jurisdictions. For example, a jurisdiction with a higher existing level of vibration may use the alternate C-weighting curve, which is a more accurate representation of human response at very high or very low frequencies than the A-weighting curve (Brüel & Kjær 2000).

4.10.1.3 Existing Noise Conditions

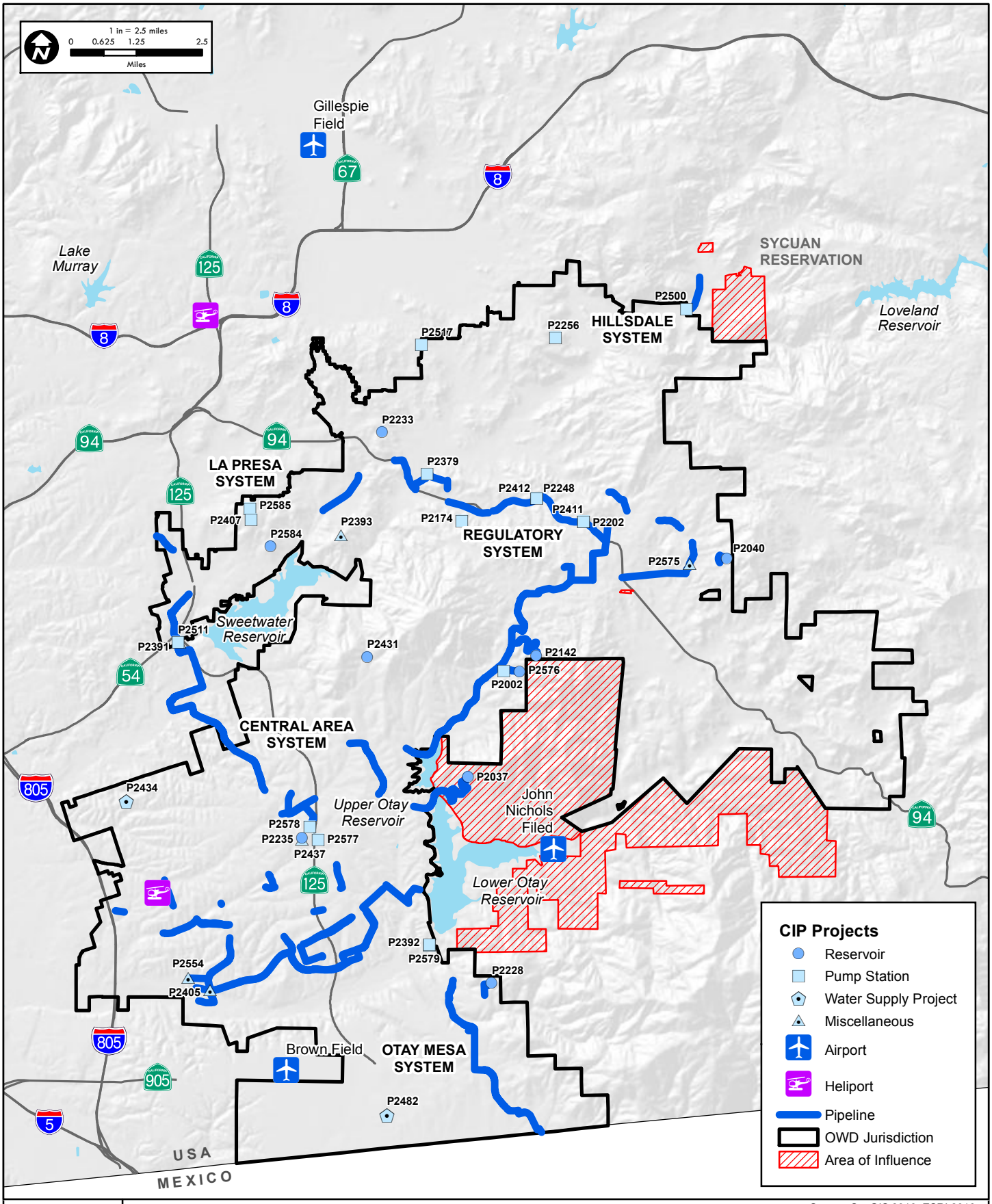
The following discussion describes transportation noise sources, operational noise sources that comprise the existing noise environment within the planning area.

Roadways

Traffic on roadways is the most substantial and common source of noise within the OWD planning area. The number and type of roads vary within the OWD planning area. In general, the northern portion of the planning area is dominated by local roads and state highways that connect widely spaced development. The western and southern portions of the planning area contain a denser roadway network consisting of major arterials and local roads, as well as interstate and state highways, to support the higher density residential, commercial and industrial development in these areas. Major highways include I-805 (along the western border), SR-11, SR-94, SR-125, and SR-905. SR-94 is located in the northeastern portion of the planning area, while SR-125 and SR-905 serve the southern portion of the planning area. Local and private roads serve lower speed, lower volume traffic and subsequently feature lower roadway noise levels.

Aviation

The OWD planning area is located within two miles of one public airport and one private airstrip. Brown Field Municipal Airport is located just outside the eastern border of the OWD planning area, within the city of San Diego (Figure 4.10-1). Located north of the U.S./Mexico international border, Brown Field airport is a port-of-entry into the United States for private air craft coming from Mexico into California. Brown Field is also heavily used by military and law enforcement agencies. John Nichol's Field, a private airstrip, is located within the OWD planning area, approximately 10 miles east of Chula Vista (Figure 4.10-1). This airstrip is owned by San Diego Air Sports Center, and is the home field for the San Diego Ultralight Association, servicing primarily parachutes and ultralight aircraft. In addition, there is one privately owned heliport located within the western portion of the OWD planning area, located within the city of San Diego (Figure 4.10-1).



Source: SanGIS 2016, ESRI 2016

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Figure 4.10-1

Public and Private Airports

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10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 4.10-1 Airports.mxd

Operational Noise Sources

Noise associated with commercial and industrial operations can include on-site machinery operation, outdoor truck activity, air compressors, and/or generators. The degree of noise generated by commercial or industrial uses is dependent upon various factors, including type of industrial activity, hours of operation, and the location relative to other land uses. Agricultural noise sources that generate the highest sound levels are chainsaws, crop dusting aircraft, and tractors. In addition, operation of exterior exhaust and cooling system equipment typically used in greenhouse operations can be a source of noise that may affect surrounding land uses.

4.10.1.4 Noise-Sensitive Land Uses

Noise-sensitive land uses (NSLU) include areas where an excessive amount of noise would interfere with normal activities. Primary NSLU include residential uses, public and private educational facilities, hospitals, convalescent homes, hotels/motels, daycare facilities, and passive recreational parks. Sleep disturbance is the most critical concern for a NSLU on a 24-hour basis or longer compared to activities that are occupied only a portion of a day.

The OWD planning area spans across three major jurisdictional areas: County of San Diego, City of San Diego, and City of Chula Vista. NSLU are located throughout the planning area. For a detailed description of the land uses surrounding each CIP project, please refer to Section 4.9, Land Use. The majority of pipeline CIPs are located within 0.25 mile of residential land use. Above-ground CIPs that are located in close proximity (less than one-quarter of a mile) to residential land uses are identified in Table 4.10-1 and 4.10-2.

4.10.1.5 Vibration-Sensitive Land Uses

Vibration-sensitive land uses include buildings where vibration would interfere with operations within the building, such as vibration-sensitive research and manufacturing, hospitals with vibration-sensitive equipment, and university research operations. The degree of sensitivity to vibration depends on the specific equipment that would be affected by the vibration. Electron microscopes and high-resolution lithography equipment function within certain scientific and manufacturing tolerances that can be compromised in high vibration environments. Residential uses are also sensitive to excessive levels of vibration of either a regular or intermittent nature.

Table 4.10-1 Potable Water Storage CIP Projects within 0.25 mile of Residential

Project No.	System	Project Description	Land Use Jurisdiction
Phase II (2017 - 2022)			
P2040	Regulatory	Res - 1655-1 Reservoir, 0.5 MG	County of San Diego
Phase IIIA (2023 - 2050) – Projects Required Under Baseline Supply Assumptions			
P2584	La Presa	Res - 657-1 and 657-2 Reservoir Demolitions	County of San Diego
Phase IIIB (2023 - 2050) – Projects Required without Assumed New Supply Source(s)			
P2233	La Presa	Res - 640-3 Emergency Reservoir, 10.0 MG	County of San Diego
P2235	Central	Res - 624-4 Emergency Reservoir, 30.0 MG (previously 40 MG)	City of Chula Vista

Table 4.10-2 Potable Water Pump Station CIP Projects within 0.25 mile of Residential

Project No.	System	Project Description	Land Use Jurisdiction
Phase II (2017 - 2022)			
P2393	La Presa	PS - Pointe Hydro Pump Station Expansion, from 240 to 400 gpm	County of San Diego
Phase IIIA (2023 - 2050) – Projects Required Under Baseline Supply Assumptions			
P2256	Hillsdale	PS - 978-2 Pump Station, 1,500 gpm	County of San Diego
P2391	Central to La Presa	PS - Perdue WTP Pump Station, 10,000 gpm	County of San Diego
P2577	Central	PS - 980-2 Pump Station Expansion, from 12,000 to 16,000 gpm	City of Chula Vista
P2578	Central	PS - 711-2 (PS 711-1 replacement), from 10,000 to 14,000 gpm	City of Chula Vista
P2585	La Presa	PS - 1200-2 Pump Station, 1,000 gpm	County of San Diego
P2202	Regulatory	PS - 1296-1 Pump Station Expansion, from 2,900 to 6,000 gpm	County of San Diego
P2248	Regulatory	PS - 944-1 Pump Station Expansion, from 3,000 to 6,000 gpm	County of San Diego

4.10.2 Regulatory Framework

4.10.2.1 Federal

Federal Transit Administration Standards

Although the FTA standards are intended for federally funded proposed mass transit projects, the impact assessment procedures and criteria included in the FTA Transit Noise and Vibration Impact Assessment (May 2006) are routinely used for projects proposed by local jurisdictions.

4.10.2.2 State

California Noise Control Act of 1973

Sections 46000 – 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, finds that excessive noise is a serious hazard to the public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

4.10.2.3 Local

San Diego County Noise Ordinance

The San Diego County Noise Ordinance establishes prohibitions for disturbing, excessive, or offensive noise, and provisions such as sound level limits for the purpose of securing and promoting the public health, comfort, safety, peace, and quiet for its citizens. Planned compliance with sound level limits and

other specific parts of the ordinance allows presumption that the noise is not disturbing, excessive, or offensive. Limits are specified depending on the zoning placed on a property (e.g., varying densities and intensities of residential, industrial and commercial zones). Where two adjacent properties have different zones, the sound level limit at a location on a boundary between two properties is the arithmetic mean of the respective limits for the two zones, except for extractive industries. It is unlawful for any person to cause or allow the creation of any noise that exceeds the applicable limits of the Noise Ordinance at any point on or beyond the boundaries of the property on which the sound is produced. Table 4.10-3 shows the allowable noise levels and corresponding times of day for each zoning designation.

Table 4.10-3 San Diego County Exterior Noise Standards

Zone[1]	Limit One-Hour dBA[2]	Time Period
(1) R-S, R-D, R-R, R-MH, A-70, A-72, S-80, S-81, S-90, S-92, R-V, and R-U Use Regulations with a density of less than 11 dwelling units per acre.	50 dBA 45 dBA	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.
(2) R-RO, R-C, R-M, S-86, FB-V5, RV, AND R-U Use Regulations with a density of 11 or more dwelling units per acre.	55 dBA 50 dBA	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.
(3) S-94, FB-V4, AL-V2, AL-V1, AL-CD, RM-V5, RM-V4, RM-V3, RM-CD and all commercial zones.	60 dBA 55 dBA	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.
(4) V1, V2	60 dBA 55 dBA	7:00 a.m. – 7:00 p.m. 7:00 p.m. – 10:00 p.m.
V1	55 dBA	10:00 p.m. – 7:00 a.m.
V2	50 dBA	10:00 p.m. – 7:00 a.m.
V3	70 dBA 65 dBA	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.
(5) M-50, M-52, M-54	70 dBA	Anytime
(6) S-82, M-56, and M-58.	75 dBA	Anytime
(7) S-88[3]	See below	

(1) Refer to the San Diego County Zoning Ordinance for a list of zones represented by the abbreviations in this table. Online URL:www.sdcounty.ca.gov/dplu/zoning/index.html

(2) If the measured ambient noise level exceeds the applicable limit, the allowable one-hour average sound level shall be the one-hour average ambient noise level, plus three decibels. The ambient noise level shall be measured when the alleged noise violation source is not operating.

(3) S-88 zones are Specific Planning Areas which allow different uses. The sound level limits that apply in an S-88 zone depend on the use being made of the property. The limits in subsection (1) apply to property with a residential, agricultural or civic use. The limits in subsection (3) apply to property with a commercial use. The limits in subsection (5) apply to property with an industrial use that would only be allowed in an M50, M52 or M54 zone. The limits in subsection (6) apply to all property with an extractive use or a use that would only be allowed in an M56 or M58 zone.

Source: County 2009

Sections 36.408 through 36.411 of the Noise Ordinance establish additional noise limitations for operation of construction equipment [San Diego County Code of Regulatory Ordinances Title 3, Division 6, Chapter 4, Section 36.401 through 36.435] Except for emergency work, in shall be unlawful for any person to operate or cause to be operated, construction equipment:

a. Between the hours of 7:00 p.m. and 7:00 a.m.

b. That exceeds an average sound level of 75 decibels for more than eight hours, when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

The County noise ordinance also includes standards for other sources of temporary and nuisance noise. Section 36.410, Sound Level Limitations on Impulsive Noise, states that except for emergency work, no person shall produce or cause to be produced an impulsive noise that exceeds the following standards when measured at the boundary line of or on any occupied property for 25 percent of the minutes in the measurement period:

- 82 dBA at an occupied residential, village zoning, or civic use, or 85 dBA at an occupied agricultural, commercial, or industrial use; or
- 85 dBA at an occupied residential, village zoning, or civic use, or 90 dBA at an occupied agricultural, commercial, or industrial use for a public road project.

City of San Diego Noise Ordinance

The City of San Diego has adopted exterior noise level standards in its municipal code (Chapter 5, Public Safety, Morals and Welfare, of the San Diego Municipal Code) for various land uses (Table 4.10-4).

Table 4.10-4 City of San Diego Exterior Noise Standards

Land Use	Limit One-Hour dBA[1]	Time Period
Single Family Residential	50 dBA 45 dBA 40 dBA	7:00 a.m. – 7:00 p.m. 7:00 p.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.
Multi-Family Residential (Up to a maximum density of 1/2000)	55 dBA 50 dBA 45 dBA	7:00 a.m. – 7:00 p.m. 7:00 p.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.
All other Residential	60 dBA 55 dBA 50 dBA	7:00 a.m. – 7:00 p.m. 7:00 p.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.
Commercial	65 dBA 60 dBA 60 dBA	7:00 a.m. – 7:00 p.m. 7:00 p.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.
Industrial or Agricultural	75 dBA	Anytime

[1] If the measured ambient level exceeds the applicable limit, the allowable one-hour average sound level shall be the ambient noise level.
Source: San Diego Municipal Code, No. 59.5.0404

The City of San Diego Noise Ordinance (Municipal Code Ordinance No. 59.5.0404) limits the hours of allowable construction activities and establishes performance standards for construction noise at any residentially zoned property. Construction activity is required to remain below 75 decibels from 7:00 a.m. to 7:00 p.m. at or beyond the property lines of any property zoned residential. Additionally, the ordinance prohibits construction from 7:00 p.m. to 7:00 a.m. and on Sundays and holidays, with the exception of Columbus Day and Washington's Birthday, unless a permit has been granted by the city. These provisions do not apply to construction equipment used in connection with emergency work, provided the City of San Diego is notified within 48 hours after commencement of work.

City of Chula Vista

Table 4.10-5 includes the exterior noise limits for Chula Vista (Chapter 19.68, Performance Standards and Noise Control, of the Chula Vista Municipal Code) for various land uses. Construction and demolition

activities are exempt from the Exterior Noise Standards listed below in Table 4.10-5. These noises are regulated in Section 17.24.040. This ordinance prohibits the use of any tools, power machinery, or equipment or the conduct of construction and building work in residential zones between the hours of 10:00 p.m. and 7:00 a.m., Monday through Friday, and between the hours of 10:00 p.m. and 8:00 a.m., Saturday and Sunday, except when the work is necessary for emergency repairs.

Table 4.10-5 City of Chula Vista Exterior Noise Standards

Receiving Land Use Category	Limit One-Hour dBA[1]	Time Period (Weekdays)	Time Period (Weekends)
Single Family Residential	55 dBA 45 dBA	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	8:00 a.m. – 10:00 p.m. 10:00 p.m. – 8:00 a.m.
Multi-Family Residential	60 dBA 50 dBA	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	8:00 a.m. – 10:00 p.m. 10:00 p.m. – 8:00 a.m.
Commercial	65 dBA 60 dBA	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	8:00 a.m. – 10:00 p.m. 10:00 p.m. – 8:00 a.m.
Light Industry (I-R and I-L zone)	70 dBA 70 dBA	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	8:00 a.m. – 10:00 p.m. 10:00 p.m. – 8:00 a.m.
Heavy Industry (I zone)	80 dBA 80 dBA	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.	8:00 a.m. – 10:00 p.m. 10:00 p.m. – 8:00 a.m.

[1] If the measured ambient level exceeds the applicable limit, the allowable one-hour average sound level shall be the ambient noise level.
Source: Chula Vista 2016

4.10.3 Project Impacts and Mitigation

4.10.3.1 Issue 1 – Substantial Permanent Increases in Ambient Noise Levels

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include the following PDF to reduce potential impacts associated with permanent increases in ambient noise.

Noi-PDF-1 CIP pump station and well development projects located adjacent to residential land uses shall place pumps, emergency generators, and any other motorized equipment within a masonry enclosure that minimizes interior noise. For any vents included in the enclosure, the construction contractor shall use materials specified within the OWD Standard Specifications for Louvers and Vents (Section 10200).

Prior to operation, the noise levels from stationary motorized equipment (including emergency generators) shall be measured to ensure that the following standards are not exceeded:

i. CIP Projects located within the San Diego County shall not exceed a one-hour exterior noise limit of 50 dBA at the property line during daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.).

ii. CIP Projects located within the city of San Diego shall not exceed a one-hour exterior noise limit of 50 dBA at the property line during daytime hours (7:00 a.m. to 7:00 p.m.), 45 dBA during evening hours (7:00 pm to 10:00 p.m.), and 40 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.).

iii. CIP Projects located within the city of Chula Vista shall not exceed a one-hour exterior noise limit of 55 dBA at the property line during daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.).

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant adverse impact if it would result in exposure of persons to or generation of noise levels in excess of standards established in applicable plans or noise ordinance, or applicable standards of other agencies, or otherwise result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. For the purposes of this analysis, the applicable exterior noise standards for San Diego County, the city of San Diego, and Chula Vista shall be used, as defined in Tables 4.10-3, 4.10-4, and 4.10-5, respectively.

Impact Analysis

The potential for implementation of the 2015 WFMP Update to result in significant permanent increases in ambient noise from transportation noise sources and operational noise sources is discussed below. Temporary noise impacts resulting from construction activities are discussed in Issue 2.

Transportation Noise Sources

Transportation noise sources for the CIP projects would be primarily associated with vehicular trips by employees. However, as addressed in Chapter 4.12 (Transportation/Traffic) operation of CIP projects proposed under the 2015 WFMP Update would not generate a significant volume of new vehicle trips. The maintenance for most of the CIP projects may require approximately one visit per day by OWD employees. CIP projects located within the Regulatory potable water operating system (see Figure 3-2) may require as many as 5-10 trips per day. Due to the minimal number and the geographic distribution of vehicular trips associated with the maintenance of the CIP projects, audible transportation noise increases in comparison to existing conditions would be negligible. Therefore, implementation of the 2015 WFMP Update would not result in permanent increases in ambient noise associated with transportation noise sources.

Operational Noise Sources

Operational noise sources associated with the 2015 WFMP Update could potentially affect nearby residences. The operational noise levels would vary depending on the type of CIP project, as described below.

Storage Projects

The CIP water storage projects located near residential land uses are identified in Table 4.10-1. Nine CIP water storage projects would be constructed within the OWD planning area. Once installed, these reservoirs would be passive facilities, and would not require the use of pumps, motors, or other noise-

generating machinery. Therefore, operation of these facilities would not result in permanent increases in the ambient noise environment and no operational noise impact would occur.

Pump Station Projects

Pump stations are likely to generate noise that may be audible beyond the facility site due to the motors that are used to pump the water. During normal operation, pump stations are powered by electric motors; during emergencies, diesel engine generators are used. The 2015 WFMP Update proposes construction of potable pump stations CIPs; some pump station CIPs entail upgrades or expansions to existing pump stations, others propose new pump stations (see Table 3-2). The 2015 WFMP Update also proposes recycled water CIP pump station projects (see Table 3-4). Emergency generators would only generate noise when the equipment is tested, approximately once per month, or in the event of an emergency.

Operational noise generated from pump station motors may generate noise levels that exceed those established within the local jurisdiction that may affect nearby NSLU (primarily residences). CIP pump station projects located adjacent to residential land uses are identified in Table 4.10-2. However, it is typical for pump stations to be placed within a masonry enclosure, which insulate pump stations and attenuate operational noise. In addition, noise generated from the periodic testing of the emergency power generators would temporarily increase ambient exterior noise levels. The OWD tests emergency generators approximately once a month for approximately 30 minutes during normal working hours. Although the OWD has never received complaints from nearby residents about noise produced from normal operations or emergency tests at pump stations, the implementation of Noi-PDF-1 would ensure that for pump stations that are located adjacent to residential land uses, any stationary noise-generating mechanical equipment (including emergency generators) would be enclosed within a masonry structure, and that the exterior noise levels from the equipment does not exceed the exterior noise level limits for residential land uses for the applicable jurisdictions within which the projects are located.

Pipeline Projects

CIP pipeline projects would be constructed under pre-existing roadways or concurrently with proposed roadways. Similar to storage projects, pipelines are passive facilities. Once installed, pipelines would not require the use of pumps, motors, or other noise-generating machinery. Therefore, operation of these facilities would not result in permanent increases in the ambient noise environment that may affect surrounding NSLU and no operational noise impact would occur.

Mitigation/Performance Measures

Implementation of Noi-PDF-1 would reduce potential impacts associated with permanent increases in ambient noise; therefore, no mitigation is necessary.

4.10.3.2 Issue 2 – Temporary Increases in Ambient Noise

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCPs to reduce potential impacts associated with temporary increases in ambient noise.

Noi-SCP-1 Construction activities shall comply with applicable local noise ordinances and regulations specifying sound control, including the County of San Diego, City of San Diego, and the City of

Chula Vista. Measures to reduce construction/demolition noise to the maximum extent feasible shall be included in contractor specifications and shall include, but not be limited to, the following:

i. Construction activity shall be restricted to the hours specified within each respective Municipal Code, depending on the location of the specific CIP project, as follows:

   - Construction activity for CIP projects located within San Diego County and the city of San Diego shall occur between hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday; construction shall be prohibited on Sundays and holidays.

   - Construction activity for CIP projects located within Chula Vista shall occur between hours of 7:00 a.m. to 10:00 p.m., Monday through Friday, and between the hours of 8:00 a.m. to 10:00 p.m., Saturday and Sunday.

ii. Construction noise for projects located within San Diego County and the city of San Diego shall not exceed an average sound level of 75 dBA for an eight-hour period at the project's property boundary.

iii. All construction equipment shall be properly outfitted and maintained with manufacturer-recommended noise-reduction devices.

Noi-SCP-2 For any construction activities which include blasting, the construction contractor shall implement the OWD Standard Specifications for Explosives and Blasting (Section 02200). Subject to these standard specifications, a qualified blasting consultant and geotechnical consultant shall prepare all required blasting plans and monitor all blasting activities. Prior to blasting, the contractor shall secure all permits required by law for blasting operations and provide notification at least five work days in advance of blasting activities within 300 feet of a residence or commercial building. Monitoring of all blasting activities shall be in conformance with the Standards of the State of California, Department of Mines and in no case shall blasting intensities exceed the safety standards of PPV established by the U.S. Department of Mines.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant adverse impact if it would result in exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies, or otherwise result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Impact Analysis

Construction of CIP projects proposed under the 2015 WFMP Update would result in temporary increases in ambient noise levels. Construction activities associated with CIP projects would involve the use of heavy equipment during land clearing, demolition of structures, and construction phases of access roads. Equipment that would be associated with construction of the proposed CIP projects includes dozers, rollers, dewatering pumps, backhoes, loaders, delivery and haul trucks. The magnitude of the impact would depend on the type of construction activity, noise level generated by various pieces of construction

equipment, duration of the construction phase, distance between the noise source and receiver, and any intervening topography. Sound levels of typical construction equipment range from 60 dBA to 90 dBA at 50 feet from the source (EPA 1971). Temporary construction noise impacts to NSLU would be reduced through implementation of Noi-SCP-1, which would ensure compliance with applicable local noise ordinances and regulations, including the County of San Diego, City of San Diego, and City of Chula Vista. Additional measures such as outfitting construction equipment with manufacturer-recommended noise-reduction features and locating generators and pumps at least 100 feet from the nearest NSLU would also minimize construction equipment noise.

Blasting and rock removal may be required for construction of certain CIP projects. The blasting procedure would include drilling a hole, filling the hole with explosive material, capping the hole, and detonating the material. Blasting is a short-term event, typically lasting no more than several seconds. Noise levels from rock drilling and blasting could exceed 90 dBA – 100 dBA at a distance of 50 feet. Temporary noise impacts associated with blasting activities would be reduced through implementation of Noi-SCP-2, which would ensure compliance with the OWD Standard Specifications for Explosives and Blasting (Section 02200). Subject to these standard specifications, a qualified blasting consultant and geotechnical consultant would prepare all required blasting plans and monitor all blasting activities. Prior to blasting, the contractor would secure all permits required by law for blasting operations and provide notification at least five work days in advance of blasting activities within 300 feet of a residence or commercial building. Monitoring of all blasting activities would be in conformance with the Standards of the State of California, Department of Mines and in no case would blasting intensities exceed the safety standards of PPV established by the U.S. Department of Mines.

At this time, many of the CIP projects under the 2015 WFMP Update are still in the design phase, and as such, information regarding the specific number and type of construction equipment required and the duration of construction activities is still unknown. Therefore, it is unknown whether or not construction emissions for the CIP projects (either individually or collectively) would exceed the noise levels limits established by applicable noise ordinances. However, implementation of Noi-SCP-1 and Noi-SCP-2 would ensure that noise from construction activity would remain within the limits established by applicable jurisdictions, and temporary noise impacts would be less than significant.

Mitigation/Performance Measures

Implementation of Noi-SCP-1 and Noi-SCP-2 would reduce potential impacts associated with temporary increases in ambient noise; therefore, no mitigation is necessary.

4.10.3.3 Issue 3 – Excessive Groundborne Vibration or Noise

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, Noi-SCP-1 and Noi-SCP-2 (refer to Section 4.10.3.2, Issue 2) to reduce potential impacts associated with excessive groundborne vibration and noise.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant adverse impact if it would result in the exposure of persons to or generation of excessive

groundborne vibration equal to or in excess of 0.2 in/sec PPV. Construction activities within 200 feet and pile driving within 600 feet would be potentially disruptive to vibration-sensitive operations (Caltrans 2002).

Impact Analysis

Vibration sources associated with implementation of the 2015 WFMP Update would be generated primarily from project construction. Once installed, the CIP project facilities include either passive uses (pipelines, reservoirs) or pump stations that would not generate substantial levels of vibration.

Construction-related vibration would have the potential to impact nearby structures and vibration-sensitive equipment and operations. The level of vibration generated from other construction activities would depend on the type of soils and the energy-generating capability of the construction equipment. According to Caltrans, the highest measured vibration level during highway construction was 2.88 in/sec PPV at 10 feet from a pavement breaker. Other typical construction activities and equipment, such as dozers, earthmovers, and trucks have not exceeded 0.10 in/sec PPV at 10 feet. Vibration sensitive instruments and operations may require special consideration during construction. Vibration criteria for sensitive equipment and operations are not defined and are often case specific. In general, the criteria must be determined based on manufacturer specifications and recommendations by the equipment user. As a guide, major construction activity within 200 feet and pile driving within 600 feet may be potentially disruptive to sensitive operations (Caltrans 2002). Although no vibration-sensitive uses have been identified within 200 feet of the proposed CIP projects, construction of certain CIP projects may include blasting, which would have the potential to generate excessive groundborne vibration that may affect nearby vibration-sensitive uses. Compliance with the OWD Standard Specifications for Explosives and Blasting (Section 02200), as specified in Noi-SCP-2 would reduce impacts associated with groundborne vibration due to blasting activities to a less than significant level.

Mitigation/Performance Measures

Implementation of Noi-SCP-1 and Noi-SCP-2 would reduce potential impacts associated with excessive groundborne vibration and noise; no mitigation is required.

4.10.4 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2015 WFMP Update

Would implementation of the 2015 WFMP Update expose people residing or working in the project area to excessive noise levels resulting from aircraft?

The planning area is located within two miles of one public airport and one private airstrip. The planning area is subject to periodic commercial/general aircraft and helicopter overflights from regional airports, however, the CIP projects included within the 2015 WFMP Update include pump stations, reservoirs, pipelines, and water supply projects, which do not contain any residential housing. Further, these projects would not affect the aircraft flight patterns of regional airports. Therefore, no impact would occur, and no further analysis is required.

4.10.5 References

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4.11 Public Safety

This section of the PEIR for the 2015 WFMP Update describes existing conditions within the planning area with respect to public safety; the potential physical environmental effects (direct, indirect, and/or cumulative) related to this issue resulting from development of CIPs under the 2015 WFMP Update; and the project design features, standard construction practices, and mitigation/performance measures to reduce or avoid the identified impacts.

4.11.1 Environmental Setting

4.11.1.1 Use and Disposal of Hazardous Materials at CIP Sites

For purposes of this PEIR, a "hazardous material" is defined by the California Health and Safety Code Sections 25501(n) and (o), as:

> …any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous wastes, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

All construction CIP sites would require the use of vehicle related fuels, lubricants, oils, paints, and solvents. Water storage CIPs may utilize chlorine gas, sodium hypochlorite, and aqueous ammonia for water disinfecting purposes.

4.11.1.2 Transportation of Hazardous Materials

OWD contracts with licensed hazardous waste transporters to deliver hazardous wastes generated at OWD facilities to licensed hazardous waste facilities for treatment or disposal. The USDOT, Office of Hazardous Materials Safety, sets strict regulations for the safe transportation of hazardous materials, as outlined in Title 49 of the Code of Federal Regulations (refer to Section 4.11.2.1 below for more information). In California, the California Highway Patrol (CHP) has the primary authority of enforcing federal and state regulations and responding to hazardous materials transportation emergencies. Specifically, Section 31303 of the California Vehicle Code requires that when hazardous materials are transported on state or interstate highways, the highway(s) that offer the shortest overall transit time possible shall be used. The transportation of hazardous materials along any city or state highway within or near the planning area is subject to applicable regulations established by the CHP and the County DEH (PBS&J 2010).

Wildland Fire Hazards

Portions of the planning area are located in regions with a known risk or history of wildland fire. Wildland fire response within the unincorporated county portions of the planning area is provided by the California

Department of Forestry and Fire Protection (CalFire) or one of the responsible community fire districts, including Crest Forest Fire District, San Diego Rural Fire Protection District, Bonita-Sunnyside Fire Protection District, or San Miguel Consolidated Fire Protection District. Wildland fire response within the portions of the planning area encompassed by the City of San Diego or the City of Chula Vista is provided by the San Diego Fire-Rescue Department and the Chula Vista Fire Department, respectively (PBS&J 2010).

Emergency Response and Evacuation plans

The Unified Disaster Council (UDC) is the governing body of the Unified San Diego County Emergency Services Organization. The Council is comprised of the San Diego County Board of Supervisors, who serves as Chair of the Council, and representatives from the 18 incorporated cities. The County of San Diego Office of Emergency Services (OES) serves as staff to the UDC. In this capacity, OES is a liaison between the incorporated cities, the California Governor's Office of Emergency Services and the Federal Emergency Management Agency (FEMA), as well as non-governmental agencies such as the American Red Cross (County 2014).

The San Diego County Emergency Operations Plan (EOP); described further below in Section 4.11.2.3, was approved by the County Board of Supervisors in September 2014. The EOP is used by all key partner agencies within the county to respond to major emergencies and disasters. The cities are encouraged to adopt the Emergency Operations Plan as their own with modifications as appropriate (County 2014).

OWD Hazardous Materials Business Plan

In accordance with the Water Agencies Standards (WAS), prior to grading, the construction contractor is required to implement a HMBP at each CIP construction site. In addition, for each CIP pump station project and CIP well development project that would involve the transport, storage, use, and disposal of hazardous materials during project operation, OWD will create and implement a site-specific HMBP (PBS&J 2010).

4.11.2 Regulatory Framework

Applicable federal and state laws and regulations governing the generation, handling, transportation, storage, use, and disposal of hazardous materials are described in the following sections. Federal agencies that regulate hazardous materials include the EPA and the federal Occupational Safety and Health Administration (OSHA). At the state level, agencies such as the California EPA, California Department of Toxic Substances Control (CDTSC), California OSHA govern the use of hazardous materials.

4.11.2.1 Federal

Resource Conservation and Recovery Act of 1976

Federal hazardous waste laws are generally promulgated under the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984. These laws provide for the “cradle to grave” regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed of. The EPA has the primary responsibility for

implementing RCRA; however, individual states are encouraged to seek authorization to implement some or all of RCRA provisions.

Hazardous Materials Transportation Act

The USDOT regulates hazardous materials transportation under Title 49 of the Code of Federal Regulations (CFR). State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the CHP and Caltrans. These agencies also govern permitting for hazardous materials transportation.

Title 40 CFR Part 112, Oil Pollution Prevention

A Spill Prevention Control and Countermeasure Plan (SPCC) is required by Title 40, CFR Part 112. In California, owners and operators of above-ground storage tanks (ASTs) must comply with federal regulations pertaining to oil spill prevention and above-ground petroleum storage. The SPCC Plan provides an analysis of the potential for hazardous materials releases from ASTs and the measures that could be put into place to reduce the potential for such releases. Facilities subject to these regulations must complete an SPCC Plan if they contain ASTs with a capacity of 660 gallons or more, or if the total facility capacity exceeds 1,320 gallons.

4.11.2.2 State

Hazardous Materials Release Response Plans and Inventory Act

Chapter 6.95 of the California Health and Safety Code requires facilities that use, produce, store, or generate hazardous substances to prepare and implement a HMBP that discloses the type, quantity, and storage location of materials. The law also requires a site-specific emergency response plan, employee training, and designation of emergency contact personnel.

Title 23 CCR, Underground Storage Tank Act

The Underground Storage Tank (UST) monitoring and response program is required under Chapter 6.7 of the California Health and Safety Code and Title 23 of the CCR. The program was developed to ensure that the facilities meet regulatory requirements for monitoring, maintenance, and emergency response in operating USTs. The County DEH is the local administering agency for this program.

Above-ground Petroleum Storage Act

The Aboveground Petroleum Storage Act requires registration and spill prevention programs for ASTs that store petroleum. In some cases, ASTs for petroleum may be subject to groundwater monitoring programs that are implemented by the RWQCB and the SWRCB.

SB 1889, Accidental Release Prevention Law/California Accidental Release Prevention Program

SB 1889 required California to implement a federally mandated program governing the accidental airborne release of chemicals promulgated under Section 112 of the Clean Air Act. Effective January 1, 1997, the California Accidental Release Prevention Program (ARP) replaced the previous California Risk

Management and Prevention Program (RMPP) and incorporated the mandatory federal requirements. California ARP addresses facilities containing specified hazardous materials ("regulated substances") that, if involved in an accidental release, could result in adverse off-site consequences. California ARP defines regulated substances as chemicals that pose a threat to public health and safety or the environment because they are highly toxic, flammable, or explosive.

Title 22, California Hazardous Waste Control Law

California received authority to implement the RCRA program in August 1992. The CDTSC is responsible for implementing the RCRA program as well as California's own hazardous waste laws, which are collectively known as the California Hazardous Waste Control Law. The CDTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the RCRA and the California Hazardous Waste Control Law. Both laws impose "cradle to grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment. Under the Certified Unified Program Agency (CUPA), CDTSC has in turn delegated enforcement authority to the County of San Diego, which has direct oversight of hazardous waste generation, transportation, storage, and disposal within the planning area.

Emergency Response to Hazardous Materials Incidents

California has developed an Emergency Response Plan (ERP) to coordinate emergency services provided by federal, state, and local government, and private agencies. The ERP is administered by the California OES and includes response to hazardous materials incidents. The California OES coordinates the response of other agencies, including the California EPA, CHP, CDFG, RWQCB, San Diego Air Pollution Control District (APCD), and the various city fire departments and fire protection districts in the county.

4.11.2.3 Local

San Diego County Emergency Operations Plan

The Unified San Diego County Emergency Services Organization and County of San Diego Operational Area EOP (County 2014) identifies the following hazards within the San Diego region along with the emergency response/evacuation plans to avoid such hazards: earthquake, flooding, drought, dam failure, nuclear-related accidents, water, gas, energy and shortage, terrorism, tsunami, wildland and urban fire, transportation accidents, and hazardous materials incidents, and landslides. The EOP was developed in accordance with the state mandated Standardized Emergency Management System (SEMS) and the federal mandated National Incident Management System (NIMS).

4.11.3 Project Impacts and Mitigation

4.11.3.1 Issue 1 – Transport, Use, and Disposal of Hazardous Materials and Accidental Releases

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCP and PDF to reduce potential impacts associated with potential exposure to hazardous materials.

Haz-SCP-1 Prior to construction of CIP projects, the construction contractor will prepare and submit a HMBP to OWD. The procedures in the HMBP will comply with USDOT (Office of Hazardous Materials Safety) as it pertains to the transportation, storage, use, and disposal of hazardous materials and CHP regulations for the transportation of hazardous materials along state highways.

Haz-PDF-1 OWD will continue to prepare and implement a post-construction HMBP for long-term operations at CIP reservoirs, pump stations and groundwater wells involving the transportation, storage, use, and disposal of hazardous materials. The procedures in the HMBP will comply with USDOT (Office of Hazardous Materials Safety) and CHP regulations for the transportation of hazardous materials along state highways.

Haz-PDF-2 OWD will continue to prepare and implement SPCC plans for long-term operations at CIP pump stations that store fuel on site and meet the criteria of requiring an SPCC plan. The procedures in the SPCC will comply with US EPA's regulations for stored fuel and oils to prevent any discharge of oil into or upon navigable waters of the United States or ad-joining shorelines.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if it would create a hazard to the public or the environment through the transport, use, or disposal of hazardous materials; through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment; or through hazardous emissions within one-quarter mile of an existing or proposed school.

Impact Analysis

Construction of CIPs under the 2015 WFMP Update would continue to involve a limited amount of hazardous materials, such as diesel fuel, oils, paints, and solvents. However, the construction contractor is required to implement a HMBP to allow for the transportation, storage, use, and disposal of hazardous materials during CIP construction activities. In addition, the County DEH Health Hazardous Incident Response Team (HIRT) would respond to hazardous materials incidents (including identification, evaluation and mitigation of threats to local populations and the environment) within the County's jurisdiction and is also contracted to respond to hazardous materials incidents within the City of Chula Vista's jurisdiction. The Hazardous Materials (HazMat) team of the City of San Diego Fire-Rescue Department would respond to toxic chemical spills within the city's jurisdiction. This team utilizes specific

training and equipment to handle such challenges that arise with toxic chemical spills and resulting emergency situations. Therefore, implementation of Haz-SCP-1 would reduce hazards to the public or the environment through the transport, storage, use, or disposal of hazardous materials during CIP construction activities, and associated accidental releases of hazardous materials into the environment and near schools, to a less than significant level.

Long-term operations at some CIP reservoirs, pump stations, and groundwater wells under the 2015 WFMP Update may involve a limited amount of hazardous materials, such as chlorine gas, sodium hypochlorite, and aqueous ammonia for water disinfecting purposes. However, the OWD is required to implement a post-construction HMBP to allow for the transportation, storage, use, and disposal of hazardous materials for CIP reservoir, pump station, and groundwater well operations. Therefore, implementation of Haz-PDF-1 and Haz PDF-2 would reduce hazards to the public or the environment through the routine transport, storage, use, or disposal of hazardous materials during CIP operations, and associated accidental releases of hazardous materials into the environment and near schools, to a less than significant level.

Mitigation/Performance Measures

Implementation of Haz-SCP-1, Haz-PDF-1, and Haz-PDF-2 would reduce hazards to the public and the environment through the transport, storage, use, or disposal of hazardous materials during CIP construction and operations, including an accidental release of hazardous materials into the environment, to a less than significant level; therefore, no mitigation is required.

4.11.3.2 Issue 2 – Listed Hazardous Materials Sites

Project Design Features/Standard Construction Practices

There are no PDFs or SCPs identified to reduce potential impacts associated with listed hazardous materials sites.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if it would result in activities located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

Impact Analysis

The potential exists for CIP sites to have been contaminated by hazardous substances as a result of former uses of the sites, leaks from unidentified USTs, or unidentified buried debris that could contain hazardous substances or hazardous by-products. The potential risk associated with past contamination was not quantified for the various CIP sites as part of this PEIR. Therefore, CIP construction activities could be located on or near listed hazardous materials sites resulting in a significant hazard to the public or the environment.

Mitigation/Performance Measures

Implementation of the following measure would reduce potential impacts associated with listed hazardous materials sites to a less than significant level. This is considered both a mitigation and performance measure since the same measure is required for near-term and long-term projects.

Haz-2A As part of geotechnical investigations conducted prior to ground-disturbing activities for CIPs (refer to the SCPs listed in Section 4.5, Geology, Soils and Paleontology, of this PEIR), a database search of hazardous materials sites shall be performed within a one-mile radius surrounding the CIP site pursuant to Government Code Section 65962.5. In the event such sites are identified within the search parameters, OWD shall retain a registered environmental assessor to prepare a Remediation Plan for any contaminated soils or groundwater encountered within the construction area. The Remediation Plan shall be incorporated into the construction documents. If contamination is encountered during ground-disturbing activities, the on-site construction supervisor shall redirect work away from the location of the contamination and shall notify OWD, County DEH and RWQCB. The contamination remediation and removal activities shall be conducted in accordance with the Remediation Plan and pertinent regulatory guidelines, under the oversight of the appropriate regulatory agency.

4.11.3.3 Issue 3 – Emergency Response and Evacuation Plans

Project Design Features/Standard Construction Practices

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCP to reduce potential impacts associated with emergency response and evacuation plans.

Haz-SCP-2 In the event that CIP construction activities would require a lane or roadway closure, or could otherwise substantially interfere with traffic circulation, the contractor will obtain a Traffic Control Permit from the local land use agency and/or state agencies such as Caltrans, prior to construction as necessary, and implement a traffic control plan to ensure that adequate emergency access and egress is maintained and that traffic will move efficiently and safely in and around the construction site. The traffic control plan may include, but not be limited to, the following measures:

i. Install traffic control signs, cones, flags, flares, lights, and temporary traffic signals in compliance with the requirements of local jurisdictions, and relocate them as the work progresses to maintain effective traffic control.

ii. Provide trained and equipped flag persons to regulate traffic flow when construction activities encroach onto traffic lanes.

iii. Control parking for construction equipment and worker vehicles to prevent interference with public and private parking spaces, access by emergency vehicles, and owner's operations.

iv. Traffic control equipment, devices, and post settings will be removed when no longer required. Any damage caused by equipment installation will be repaired.

v. For CIP construction activities near schools, the contractor will coordinate with schools prior to commencement of construction activity to minimize potential disruption of traffic flows during school day peak traffic periods.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant impact if it would impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

Impact Analysis

Construction of CIPs could involve lane or roadway closures that may temporarily interfere with emergency response vehicles, and that may temporarily impair implementation of adopted emergency response/emergency evacuation plans contained within the EOP, which applies to the entire planning area. However, construction contractors are required to obtain a Traffic Control Permit from the local land use agency, and implement a traffic control plan to ensure that adequate emergency access and egress is maintained around the construction sites. Therefore, implementation of Haz-SCP-2 would reduce public safety hazards associated with temporary, construction-related lane and road closures or detours and their potential impairment or interference with adopted emergency response and evacuation plans to a less than significant level.

Mitigation/Performance Measures

Implementation of Haz-SCP-2 would reduce public safety hazards associated with temporary, construction-related lane and road closures or detours and their potential impairment or interference with adopted emergency response and evacuation plans to a less than significant level; therefore, no mitigation is required.

4.11.4 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2015 WFMP Update

Would implementation of the 2015 WFMP Update result in a safety hazard for people residing or working within two miles of a public airport or within the vicinity of a private airstrip?

Three CIPs, P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (624/340 PRS, Heritage Road and Hard Rock Road), and P2482 (Otay Mesa Lot 7 Groundwater Well System), under the 2015 WFMP Update would be located within two miles of a public airport or in the vicinity of a private airstrip (Figure 4.10-1). The nearest public airport to a CIP site is Brown Field, which is operated by the City of San Diego. Since there would be no human occupation associated with these CIPs, proximity to Brown Field would not result in a public safety hazard. Therefore, there would be no impact, and no further analysis is required.

Would implementation of the 2015 WFMP Update expose CIP structures to a significant risk of loss involving wildland fires?

Construction and design of the CIP reservoirs, pump stations and groundwater wells under the 2015 WFMP Update would comply with the Uniform Fire Code (Title 24 CFR, Part 9), which requires installation of sprinkler systems, fire-resistant building materials, standard driveway widths, and other features to ensure that buildings are constructed with all reasonable fire safety features. Therefore, implementation of required fire safety features would reduce potential impacts to CIP structures under the 2015 WFMP Update from wildland fires to a less than significant level, and no further analysis is required.

4.11.5 References

Atkins. 2016. Draft 2015 Otay Water District Water Facilities Master Plan Update. May.

County of San Diego, Office of Emergency Services (County). 2014. Unified San Diego County Emergency Services Organization and County of San Diego Operational Area Emergency Operations Plan. September 2014.

PBS&J. 2010. Final Program Environmental Impact Report for the Otay Water District 2009 Water Resources Master Plan Update. January.

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4.12 Transportation/Traffic

This section of the PEIR for the 2015 WFMP Update describes existing conditions within the planning area with respect transportation and traffic; the potential physical environmental effects (direct, indirect, and/or cumulative) related to this issue resulting from development of CIP projects under the 2015 WFMP Update; and the project design features, standard construction practices, and mitigation/performance measures to reduce or avoid the identified impacts.

4.12.1 Environmental Setting

Although San Diego County is growing as a region, the amount of traffic to affect the planning area will be minimal during the repair and construction of the proposed CIP projects identified in the 2015 WFMP Update. The OWD service area consists of 80,320 acres (125.5 square miles) and provides water service to approximately 200,000 residents. The OWD boundaries encompass a large portion of eastern Chula Vista, a portion of the city of San Diego on Otay Mesa, and various unincorporated areas, including Rancho San Diego, Jamul, Spring Valley, Bonita, Otay Mesa, and areas adjacent to El Cajon and La Mesa. The OWD water service area is divided into two distinct districts: the North District, serving San Diego County communities above Sweetwater Reservoir; and, the South District, serving the City of Chula Vista and Otay Mesa. Within these two area systems are six primary operating systems for potable water, including the Regulatory, La Presa, and Hillsdale systems in the North District and the Central, Otay Mesa, and Village 13 systems in the South District. There are several major transportation routes though which access to OWD is possible, including I-8, SR- 54, and SR-94 in the north; I-805 to the west; and SR-125 in the north and south.

SR-125 is more often used in the northern portion of the planning area and less traveled within the region of the proposed CIP projects. Perhaps one reason for this is the remoteness of the region as SR-125 continues on south and becomes a toll road. In the southern portion of the planning area, closer to the international border, the proposed CIP projects are located in the remote and rural areas of OWD's jurisdiction. Traffic will not be affected significantly by the proposed CIP projects in these areas. Within the vicinity of the serviced area of eastern Chula Vista and southern Otay are the Brown Field Municipal Airport, Otay County Open Space Preserve, and Correction Facilities and Detention Facilities. These areas are not typically exposed to large amounts of traffic daily. Within the city of San Diego, to the east, lies San Miguel Mountain, Mother Miguel Mountain, and a portion of the Jamul Mountains, where the San Diego National Wildlife Refuge Center is located. The areas to the east of the city of San Diego are remote and typically have a very low amount of vehicular traffic. The majority of the La Presa System services an urban area, while the remaining service area is vegetated by coastal scrub and grasslands. The Hillside System is similar to La Presa System as they both service areas that are half urban and the remaining areas consist of primarily coastal scrub and riparian forest land. Central Area System services eastern Chula Vista, where about 40 percent of the area is urban and the remaining portions contain different vegetation. The Otay Mesa System services about 60 percent agricultural land, with the remaining portions consisting of different vegetated types. ~~Village 13 is a mile east of Chula Vista and would be a future rural residential development.~~ The County unincorporated Villages east of Chula Vista would be future mixed use developments.

Existing Roadway Segments Serving the Planning Area

Local arterial roads in the planning area include Campo Road which connects to SR-94, Jamacha Road, Jamacha Boulevard, and Willow Glen Drive which connect to SR-54, and Willow Glen Drive, East H Street/Proctor Valley Road, Telegraph Canyon Road/Otay Lakes Road, and Olympic Parkway that connect I-805 and SR-125. A network of residential streets and paved and unpaved rural roads also serves the planning area.

4.12.2 Regulatory Framework

4.12.2.1 Federal

Highway Capacity Manual

The Highway Capacity Manual (HCM), prepared by the federal Transportation Research Board (TRB), is the result of a collaborative multi-agency effort between the TRB, Federal Highway Administration, and American Association of State Highway and Transportation Officials (Transportation Research Board 2010). The HCM contains concepts, guidelines, and procedures for computing the capacity and quality of service of various transportation facilities, including freeways, signalized and unsignalized intersections, and rural highways, and the effects of transit, pedestrians, and bicycles on the performance of these systems.

4.12.2.2 State

California Department of Transportation Standards

The California Department of Transportation (Caltrans) is responsible for planning, designing, building, operating, and maintaining California's state road system. Caltrans sets standards, policies, and strategic plans that aim to do the following: (1) provide the safest transportation system in the nation for users and workers, (2) maximize transportation system performance and accessibility, (3) efficiently deliver quality transportation projects and services, (4) preserve and enhance California's resources and assets, and (5) promote quality service. Caltrans has the discretionary authority to issue special permits for the use of state highways for other than normal transportation purposes.

Statewide Transportation Improvement Program

The California 2016 ~~2014~~ Statewide Transportation Improvement Plan (STIP), approved by the California Transportation Commission in January 2016~~U.S. Department of Transportation (DOT) in August 2013~~, is a multiyear, intermodal program of transportation projects that is consistent with the statewide transportation planning processes, metropolitan plans, and Title 23 of the CFR. The STIP is prepared by Caltrans in cooperation with the MPOs and the Regional Transportation Planning Agencies. In San Diego County, the MPO and Regional Transportation Planning Agency is the SANDAG. The STIP contains all capital and non-capital transportation projects or identified phases of transportation projects for funding under the federal Transit Act and CFR Title 23, including federally funded projects.

4.12.2.3 Regional/Local

Regional Plan ~~2050 Regional Transportation Plan~~

SANDAG adopted the San Diego Forward: The Regional Plan (Regional Plan) on October 9, 2015. The Regional Plan integrates the Regional Transportation Plan, its Sustainable Communities Strategy, and the Regional Comprehensive Plan into one document. The Regional Plan ~~2050 RTP and SCS on October 28, 2011. The 2050 RTP~~ maps out a system designed to maximize transit enhancements, integrate biking and walking elements, and promote programs to reduce demand and increase efficiency (SANDAG 2015~~2011a~~). The Regional Plan ~~RTP~~ also identifies the plan for investing in local, state and federal transportation facilities in the region over the next 35~~40~~ years. The Regional Plan ~~SCS~~ also addresses how the transportation system will be developed in such a way that the region is able to reduce per-capita GHG emissions to state-mandated levels.

2016~~2014~~ Regional Transportation Improvement Program

The Regional Transportation Improvement Plan (RTIP) is a multi-year program of proposed major highway, arterial, transit, and bikeway projects. The 2016~~2014~~ RTIP is a multi-billion dollar, multi-year program of proposed projects for major transportation projects in the San Diego Region. The RTIP covers five fiscal years and incrementally implements the Regional Plan (SANDAG 2016). ~~prioritized program designed to implement the region's overall strategy for providing mobility and improving the efficiency and safety of efforts to attain federal and state air quality standards for the region (SANDAG 2014).~~

San Diego County General Plan Mobility Element

The San Diego County General Plan Mobility Element provides a framework for a balanced, multi-modal transportation system within the unincorporated areas of the County of San Diego (County 2011a, and amended most recently on November 18, 2015). The Mobility Element includes a description of the County's transportation network and the goals and policies that address safety, efficiency, maintenance, and management of the transportation network.

San Diego County Public Road Standards

The County of San Diego Public Road Standards were updated consistent with the County's Mobility Element in March 2012. The standards serve as guidelines for design and construction of public road improvements projects within unincorporated San Diego County. The standards apply to both county and developer initiated public road improvement projects.

San Diego County Guidelines for Determining Significance and Report Format and Content Requirements for Transportation and Traffic

The County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements for Transportation and Traffic, modified August 24, 2011, provide guidance for evaluating adverse environmental effects that a project may have in relation to traffic and transportation (County 2011b). The guidelines for determining significance are organized into six categories: road segments,

signalized intersections, unsignalized intersections, ramps, hazards due to an existing transportation design feature, and hazards to pedestrians or bicyclists.

Congestion Management Plan

Projects that generate over 2,400 ADT or 200 peak hour trips, must comply with the traffic study requirements of SANDAG's CMP. The proposed CIP projects would not exceed these thresholds; therefore, no Congestion Management Plan analysis is required.

4.12.3 Impacts and Mitigation

4.12.3.1 Issues 1 & 2 – Circulation System Performance and Level of Service Standards

Project Design Features/Standard Construction Practices

There are no PDFs or SCPs identified to reduce potential impacts associated with performance of the circulation system and level of service standards.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update and CIP projects may have less than significant impacts on the performance of the circulation system.

Impact Analysis

The development of the proposed CIP projects under the 2015 WFMP Update would generate a minor amount of daily construction-related trips from trucks hauling soil and/or demolition materials from the proposed project construction sites; trucks delivering equipment and materials to/from the construction sites; and construction workers driving to/from the construction sites. These localized increases in construction traffic would be temporary. This construction traffic would be a temporary increase to infrequently used locations which should not impact the traffic of localized commuters. Construction would take place throughout the planning area so that even if multiple CIP construction projects are underway simultaneously, construction would not be concentrated in one area.

Traffic associated with operation of the CIP projects would be primarily from employee commutes and maintenance activities. However, operation of CIP projects proposed under the 2015 WFMP Update would not generate a significant volume of new vehicle trips. The maintenance for most of the CIP projects may require approximately one visit per day by OWD employees. CIP projects located within the regulatory potable water operating system (see Figure 3-2) may require as many as 5-10 trips per day. Such incremental increases in vehicle trips would not be substantial in relation to the existing traffic load and capacity of intersections, street segments and freeways within the planning area.

Mitigation/Performance Measures

As discussed above, construction-related traffic and employee commutes would increase total trips by an incremental amount, but well below any noticeable level; therefore, impacts related to traffic and LOS standards would be less than significant. No mitigation is required.

4.12.4 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2015 WFMP Update

Would implementation of the 2015 WFMP Update substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

The implementation of the 2015 WFMP Update involves the construction of new access roads for pump station CIPs and potential open trenching in existing roads for pipeline CIPs, however, traffic control measures, as described in Haz-SCP-2, would be implemented during construction and the roads would be designed as to not increase hazards to the public. Uses of new access roads and existing roads would continue to be compatible with OWD operations and maintenance of CIP facilities and function as designed within the larger context of the local transportation network. Therefore, there would be no impact, and no further analysis is required.

Would implementation of the 2015 WFMP Update conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

As mentioned previously, the OWD water transmission facilities are not subject to local agency zoning requirements pursuant to Section 53901 of the California Government Code. Due to this exemption, implementation of the 2015 WFMP Update would not conflict with adopted policies, plans, or programs supporting alternative transportation, and no further analysis is required.

Would implementation of the 2015 WFMP Update exceed either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

The incremental increases in short-term, construction-related vehicle trips and long-term operational trips associated with the CIP projects under the 2015 WFMP Update would not be substantial in relation to the existing traffic load and capacity of the circulation system, and therefore would not exceed a level of service standard for intersections, street segments and freeways within the planning area. Since there would be no direct or cumulative traffic impacts associated with implementation of the 2015 WFMP Update, no further analysis is required.

Would implementation of the 2015 WFMP Update result in inadequate emergency access?

Compliance with applicable building codes would ensure that any driveways or other emergency access points would be adequately provided at each CIP, where necessary; therefore, development of CIPs under the 2015 WFMP Update would not result in inadequate emergency access, and no further analysis is required.

4.12.5 References

Atkins. 2016. Draft 2015 Otay Water District Water Facilities Master Plan Update. May.

County of San Diego (County). 2011a. General Plan. Chapter 4, Mobility Element.

County of San Diego (County). 2011b. San Diego County Guidelines for Determining Significance and Report Format and Content Requirements for Transportation and Traffic. Land Use and Environmental Group. August 24, 2011.

San Diego Association of Governments (SANDAG). 2015. San Diego Forward: The Regional Plan. October. Accessed at: http://www.sdforward.com/pdfs/RP_final/The%20Plan%20-%20combined.pdf ~~2011. 2050 Regional Transportation Plan. October 28, 2011. Accessed at: http://www.sandag.org/uploads/2050RTP/F2050rtp_all.pdf~~

San Diego Association of Governments (SANDAG). 2016 ~~2014~~. Regional Transportation Improvement Program. September. Accessed at: http://www.sandag.org/uploads/publicationid/publicationid_2071_21174.pdf

Chapter 5 CUMULATIVE IMPACTS AND MITIGATION

CEQA requires that EIRs discuss cumulative impacts, in addition to project impacts. According to Section 15355 of the CEQA Guidelines:

> "Cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.
>
> a. The individual effects may be changed resulting from a single project or a number of separate projects.
>
> b. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Section 15130(a) of the CEQA Guidelines requires that EIRs discuss the cumulative impacts of a project when the project's incremental effect is cumulatively considerable. According to Section 15065(a)(3) of the CEQA Guidelines, "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. In accordance with Section 15130(b) of the CEQA Guidelines, the discussion of cumulative impacts must reflect the severity of the impacts and the likelihood of their occurrence; however, this discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. Further, the discussion of cumulative impacts is guided by the standards of practicality and reasonableness. The CEQA guidelines allow for a project's contribution to be rendered less than cumulatively considerable with implementation of mitigation measure(s) designed to alleviate the cumulative impacts.

The geographic scope of the cumulative impact analysis varies depending upon the specific environmental topic being analyzed. In accordance with CEQA Guidelines Section 15130(b)(3), Table 5-1 summarizes the geographic area within which past, present, and reasonably foreseeable future projects may contribute to a specific cumulative impact, when considered in conjunction with the impacts associated with implementation of the WFMP.

CEQA Guidelines Section 15130(b) indicates the following approaches for identifying cumulative projects:

- A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

- A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

In determining the present and probable future projects to include in the cumulative impact analysis, the following guidance is provided by the *Communities for a Better Environment vs. Resources Agency* case. Probable projects include those which: 1) have an application on file at the time the NOP is released; 2) are included in an adopted capital improvement program, general plan, regional transportation plan, or similar plan; 3) are included in a summary of projections of projects (or development areas designated) in a general plan or similar plan; 4) are anticipated as later phases of approved projects; or 5) are included in money budgeted by public agencies.

Table 5-1 Geographic Scope of Cumulative Impact Analyses

Environmental Topic	Geographic Scope of Cumulative Impact Analyses
Air Quality	Sensitive receptors adjacent to CIP construction sites for toxic air contaminants; the San Diego Air Basin for criteria air pollutants.
Biological Resources	Natural habitats within and adjacent to CIP construction sites.
Cultural Resources	The planning area and adjacent areas of influence.
Energy	The planning area and adjacent areas of influence.
Geology, Soils, Paleontological Resources	For seismic hazards and other geologic/soils conditions (fault rupture, groundshaking, ground failure, liquefaction/collapse, landslides, lateral spreading, subsidence, expansive soils), no cumulative study area because impacts are specific to CIP project sites. For soil erosion, the cumulative impact study area includes the Sweetwater River and Otay River watersheds directly downstream from CIP construction sites. For paleontological resources, the cumulative impact study area includes the paleontologically sensitive geologic formations within the planning area.
Global Climate Change	Global atmosphere.
Hydrology/Water Quality	For groundwater quality, supplies and recharge, the cumulative impact study area includes the San Diego Formation, Sweetwater, and Otay Valley groundwater basins. For surface water quality, the cumulative impact study area includes the Tijuana River, Otay River and Sweetwater River watersheds directly downstream from CIP construction sites and above-ground CIP projects (e.g., enclosed reservoirs, pump stations).
Landform Alteration/Visual Quality	Public viewsheds from which above-ground CIP projects would be visible.
Land Use/Planning	For conflicts with habitat conservation plans and natural communities conservation plans, the cumulative impact study area includes all of the open space reserves within and adjacent to the planning area, as identified by Multiple Species Conservation Plans of local agencies, including the San Miguel Habitat Management Area operated by OWD.
Noise	Residential projects directly adjacent to CIP construction sites and pump stations, and projects adjacent to roadways and freeways used by construction-related traffic along which the projected increase in construction traffic would exceed noise standards.
Public Safety	Projects adjacent to roadways and freeways used by vehicles transporting hazardous materials to and from the CIP construction sites.
Transportation/Traffic	Roadways and intersections in the vicinity of CIP construction sites at which the projected increase in construction traffic would exceed 50 peak-hour trips.

The cumulative analysis for this PEIR uses a combination of the two approaches listed above. For each environmental topic addressed in Chapter 4 of this PEIR, the regional or area-wide conditions and cumulative projects contributing to a particular cumulative impact (as identified in the relevant general plans of jurisdictions located within and adjacent to the WFMP planning area) is considered as part of the baseline when evaluating the WFMP's contribution to that cumulative impact. In accordance with CEQA Guidelines Section 15130(b)(5), a determination is made regarding the significance of the baseline cumulative impact (prior to considering the cumulative contribution of the WFMP) resulting from the full range of regional or area-wide conditions and cumulative projects that occur within the specific geographic areas described in Table 5-1.

Past projects were considered as part of the baseline condition for the cumulative impact analysis. The cumulative projects identified and considered in the cumulative impact analyses are identified using the San Diego Association of Governments (SANDAG) growth projections, as discussed and listed in Table 5-2.

Regional Land Use Planning and Projected Growth

SANDAG maintains the most current economic, demographic, land use, and transportation data projections for the county and incorporated cities. The most recent growth and demographic forecast prepared by SANDAG is known as Series 13. The Series 13 forecast is based on regional demographic and economic forecasts, and on the adopted land use plans of the City of Chula Vista, City of San Diego, and County of San Diego, and each other land use jurisdiction within the OWD's service area. The planning documents discussed below guide development and land use planning in the region to accommodate for the expected growth identified in the SANDAG projections.

The OWD worked with SANDAG to obtain custom data reports for the service area as a whole, and for each of the five system areas and 26 pressure zones within the overall service area. Forecast population data by system area is summarized in Table 5-2. Forecast employment data by system area is summarized in Table 5-3.

Table 5-2 Anticipated Increase in Population 2012-2050

OWD Service Area	Existing Population (2012)[2]	Forecasted Population			% Change	
		Year 2020	Year 2035	Year 2050	(2012-2035)	(2012-2050)
La Presa	43,214	43,437	45,914	50,846	6%	18%
Hillsdale	13,765	14,027	14,845	15,358	8%	12%
Regulatory	6,530	7,040	7,799	8,996	19%	38%
Central	135,488	167,700	191,586	202,948	41%	50%
Otay Mesa	6,196	12,807	24,135	29,729	290%	380%
Total OWD	205,193	245,011	284,279	307,877	39%	50%

Source: SANDAG Series 13 Regional Growth Forecast Projections. August 2013.

Table 5-3 Anticipated Increase in Employment 2012-2050

OWD Service Area	Existing Employment (2012)[2]	Forecasted Employment			% Change	
		Year 2020	Year 2035	Year 2050	(2012-2035)	(2012-2050)
La Presa	5,738	8,364	9,192	10,230	60%	78%
Hillsdale	4,617	4,486	4,490	4,490	-3%	-3%
Regulatory	2,222	2,653	3,025	3,515	36%	58%
Central	20,008	38,089	45,000	53,244	125%	166%
Otay Mesa	14,094	17,281	21,108	37,064	50%	163%
Total OWD	46,679	70,873	82,815	108,543	77%	133%

Source: SANDAG Series 13 Regional Growth Forecast Projections. August 2013.

The SANDAG forecast indicates the OWD service area will continue to grow throughout the forecast horizon, with population projected to increase 50 percent by 2050, and employment more than doubling over the same period. The following notes characterize key aspects of the SANDAG forecast relative to water demand forecasts.

North District Trends: Compared to the remainder of the OWD service area, population in the three North District service areas will increase by 18 percent and employment increasing by 45 percent. These modest increases are consistent with the more built-out level of development in these areas, as relative to adopted land use.

Central Service Area Trends: The Central service area will see the largest share of the projected growth, with population increasing by 50 percent and employment by 166 percent. These significant increases are consistent with the adopted land uses of the City of Chula Vista (through the Otay Ranch General Development Plan) and of the County of San Diego.

Otay Mesa Service Area Trends: The Otay Mesa service area will undergo significant growth, with population almost quadrupling and employment more than doubling. These significant increases are consistent with the adopted land uses of the City of San Diego (through the newly updated Otay Mesa Community Plan) and of the County of San Diego (through the East Otay Mesa Specific Plan).

2050 San Diego Regional Transportation Plan

Approved in 2015~~2011~~, SANDAG's San Diego Forward: The Regional Plan (Regional Plan) ~~2050 Regional Transportation Plan (RTP)~~ was developed to meet San Diego's long-term mobility needs, better connect transportation and land use policy decisions, and create a transportation network that will serve the San Diego region until 2050. The Regional Plan proposes ~~2050 San Diego RTP proposes 17~~ new or improved transit projects, high occupancy vehicle connector routes, highway system completion routes, freeway connectors, transit facilities, arterial transit improvements, and international transportation projects within the WFMP planning area and adjacent areas of influence that have been included in the cumulative analysis. Table 5-4 lists these proposed Regional Plan ~~RTP~~ projects. The Regional Plan ~~2050 San Diego RTP~~ is available at http://www.sdforward.com/.

Table 5-4 Regional Plan Projects

Project Type	Description
Transit Facilities	
Trolley	Route 540 Blue Line Express – UTC to San Ysidro via Downtown
Trolley	Route 562 UTC to San Ysidro via Kearny Mesa, Mission Valley, Mid-City, Southeastern San Diego, National City/Chula Vista via Highland Ave/4th Avenue
Bus Rapid Transit (BRT)	Route 628 South Bay BRT (Otay Mesa-Downtown) via Otay Ranch/Millenia
BRT	Route 640 I-5 – San Ysidro to Downtown & Kearny Mesa via I-5 shoulder lanes/HOV, Downtown, Hillcrest, Mission Valley
BRT	Route 680 and 688/689 Otay Mesa/San Ysidro to Sorrento Mesa via I-805 Corridor, Otay Ranch/Millenia, National City, Southeastern San Diego, Mid-City, Kearny Mesa
BRT	South Bay Maintenance Facility
Rapid	Route 635 Eastlake/EUC to Palomar Trolley via Main Street Corridor
Rapid	Route 638 San Ysidro to Otay Mesa via Otay, SR 905 Corridor
Rapid	Route 709 H Street Trolley to Otay Ranch/Millenia via H Street Corridor, Southwestern College
Intermodal	San Ysidro Intermodal Transit Center
Managed Lanes/Highways	
Managed Lanes (ML)	2 ML on SR 54 between I-5 and SR 125
Highway	4 Lane Conventional Highway on SR 94 between Jamacha Road and Steele Canyon Road
Freeway	8 Lane Freeway on SR 125 between SR 905 and San Miguel Road
Freeway	8 Lane Freeway on SR 125 between San Miguel Road and SR 54
ML	2 ML on SR 125 between SR 54 and SR 94
ML	4 ML on I-805 between SR 905 and Carroll Canyon Road
Freeway	6 Lane Freeway between I-805 and Mexico

Source: SANDAG 2015 ~~2011~~

5.1 Cumulative Projects Identified in the 2015 WFMP Update

Since adoption of the 2009 WRMP, the planning area has experienced remarkable growth, particularly in the South District service area (Central and Otay Mesa service areas). This growth has resulted in the build-out or near build-out of large master planned development projects. As part of water facility planning efforts, major development projects typically complete SAMP or SPA documents. Both SAMP and SPA documents provide detailed land use data. As part of the 2015 WFMP Update, SAMPs and SPAs for the undeveloped and planned projects described in the 2009 WRMP Update were reviewed and their current status is reported in the following paragraphs. A summary of the major planned developments at ultimate build-out is described in Table 5-5.

La Presa System Cumulative Projects

The La Presa water system is nearing build-out. The only remaining areas to develop include the former Pointe Resort site near the District's office and the Dictionary Hill area. More specifically, the Dictionary Hill area includes a new development proposal "Private Drive Estates" for 300 single family units and the Pointe Resort area includes the Lakeshore project with 100 single family units. These two developments

account for the projected increase in water demand of 15 percent in the system. Each of these areas would require developer constructed facilities for water service. With limited development remaining no capacity projects are required.

Hillsdale System Cumulative Projects

The Hillsdale water system is nearly built-out. There are no capacity projects required throughout the system as demands are forecasted to change very little and the system is properly designed and operated.

Regulatory System Cumulative Projects

The Regulatory water system is typically a low density service area and is approaching build-out, although there are a few areas of infill development anticipated as well as a large development area. The system consists of several pumped zones (832, 944, 1090, 1296, 1485, 1530 and 1655) and a reduced zone (932).

Several of the pumped zones are in series (832, 944 and 1296) moving water from the west and the border with the Hillsdale zone to the east where much of the demand in the system resides. Water demands are projected to increase nearly 30 percent in this system, the largest growth in demand in the North District. The most significant development will be the proposed Village 14 project~~, which includes a consolidation of planned residential units from Villages 16 and 19 which are part of the approved Otay Ranch General Development Plan. These former units will be "clustered" and shifted to Village 14. Villages 16 and 19 will be left as open space and will not require water service~~. Only the higher elevations of Village 14 will be served by the Regulatory System. The lower elevations of Village 14 will be served by an expansion of water facilities, from the existing 980 zone, through Proctor Valley and are discussed under the Central System below. A few smaller infill projects are proposed in the Regulatory System including over a 126 unit condominium project near the District's office and the Simpson Farm project along Campo Road in Jamul (about 100 residential units). Planning Areas 16 and 19 are also located in this area and, as presently entitled, would include estate residential in addition to open space areas.

Central Area System Cumulative Projects

The Central Area water system has substantial growth remaining primarily in eastern Chula Vista and unincorporated areas in the county. Water demands are projected to increase nearly 50 percent in this area, which already serves the largest water system by demand in the District.

The most significant new development will be the build-out of the southern portion of Otay Ranch along the SR 125, including Villages 10, and Chula Vista's University site. In addition, to the west of SR 125, Villages 3 and 4 will complete the remaining pieces of the Otay Ranch development plan area. Within the current Otay Ranch area, the District will see continued development of Village 2 and the Millenia Development (formerly known as Eastern Urban Center Planning Area 12). Village 13 (the Resort Parcel) and Village 14, located north of Lower Otay Reservoir in the county of San Diego are moving through the entitlement process. As part of their development planning, each project will require major extensions of District water facilities, including the construction of water storage facilities.

The District requires the preparation of individual project water studies, known as Subarea Master Plans (SAMPs), to document on-site and off-site facilities that are required to serve developments. For the Otay Ranch area, completed SAMPs were reviewed and the backbone facilities proposed in the SAMPs were incorporated into the 2050 InfoWater model and evaluated from an overall Central system planning need.

Based on the InfoWater modeling, the water system generally performs well with some minor capacity constraints. The primary transmission projects will be completed concurrent with development projects in the south Otay Ranch area. Increased water storage in the 980 zone is a high priority due to existing system deficiencies. The 711 zone would benefit from the replacement of the existing 711 PS to provide more efficient operations. The service area size of the 711 and 624 zones require additional pressure reducing stations to ensure reliable service and provide flexibility to meet peak demands for a higher zone. This master plan recommends the District include a new 624 zone transmission main from the existing Otay interconnect pipeline to serve the most southerly reaches of Villages 8, 9 and 10. This would provide the District flexibility to gravity supply the 624 zone from the 624 reservoirs via the existing Otay interconnect and avoid pumping water to the 711 zone and then reducing pressure to the 624 zone.

Otay Mesa System Cumulative Projects

The Otay Mesa water system has potential growth in an unincorporated area of the county, known as the East Otay Mesa Specific Plan area. Additionally, the potential for a new, third, border crossing in this area will likely drive industrial and commercial development in the area. The major planned developments include Otay Crossings, Hawano, Otay Business Park and Sunroad. Residential development along the western boundary of the District, in the city of San Diego, is programmed as part of the Otay Mesa Community Plan update. High density development is proposed along the Siempre Viva Road corridor.

Otay Ranch GDP

The Otay Ranch GDP represents one of the largest development areas, and will continue to be the largest growth area, within the WFMP planning area. The Otay Ranch GDP consists of nearly 23,000 gross acres in the central portion of the planning area, and consists of three distinct parcels: Otay Valley, Proctor Valley, and San Ysidro Mountains. There are numerous property owners within the Otay Ranch GDP. The plan consists of 11 urban villages containing approximately 27,000 dwelling units and support commercial and community facilities. The following describes the three major parcels and undeveloped villages.

Otay Valley Parcel

The Otay Valley Parcel is the largest within the Otay Ranch GDP, containing 9,449 acres. It is generally bounded by Telegraph Canyon and Otay Lakes roads on the north, Otay Landfill on the west, Brown Field on the south, and Lower Otay Reservoir on the east. Otay River traverses the south portion of the parcel and topographically separates most of the parcel from Otay Mesa.

The Otay Valley Parcel involves 11 urban villages with village cores and three planning areas which would include 8,716 single-family dwelling units, 9,394 multi-family dwelling units, 142 acres of parks, 72 acres of community purpose facilities, 215 acres of schools, 336 acres of commercial property, 4,228 acres of open space, 503 acres of transportation uses, and the potential for a University of California (UC) campus to be located in the southeast portion of the parcel.

The major remaining undeveloped areas within the Otay Valley Parcel include:

- **Eastern Urban Center.** The Eastern Urban Center (EUC), also referred to as a portion of Planning Area 12, is bounded by Birch Road on the north, SR-125 on the west, East Lake Parkway on the east, and the future extension of Hunte Parkway on the south. This 228.2-acre SPA would consist mostly of commercial/retail (non-residential) and high-density residential land uses, as well as

several parks, a hotel, and a fire station. A water study for this project was approved by OWD in January 2008. The EUC is expected to be completed by 2020.

- **Villages 2 and 3.** Villages 2 and 3 consist of 779 acres located along the west edge of the Otay Valley Parcel, south of Olympic Parkway and west of the extension of La Media Road. Village 2 is located on a large mesa between Poggi Canyon to the north, Wolf Canyon to the south, and Otay landfill to the west. This project would include 549 single-family dwelling units, 2,379 multi-family dwelling units, 6 acres of community purpose facilities, 19 acres of commercial, 88 acres of industrial, 10 acres for a school, and 44 acres of parks.
- **Village 4.** Village 4 is comprised of 528 acres in the south portion of the Otay Valley Parcel, and is bounded by La Media Road on the east, Rock Mountain Road on the north, Wolf Canyon on the west, and Otay River Valley on the south. Located directly west of Village 8, this project would include 532 single-family dwelling units, 2 acres of community purpose facilities, 3 acres of parks, 3 acres of commercial, 10 acres for a school, and 263 acres of open space.
- **Village 10 (University Campus).** The University Campus is comprised of approximately 440 acres in the east portion of the Otay Valley Parcel, between the EUC and Salt Creek. The site is characterized as a broad mesa with slopes along the east boundary leading down to Salt Creek.

Proctor Valley Parcel

The Proctor Valley Parcel consists of 7,895 acres~~ of which approximately 70 percent is designated as open space~~. This parcel lies to the northeast of the Otay Valley Parcel and is generally bounded by Otay Lakes Road and Lower Otay Reservoir on the south, the Upper Otay Reservoir and San Miguel Mountains on the west, the community of Jamul on the north, and vacant undeveloped land on the east. Approximately 3,000 acres of the Proctor Valley Parcel lie within the WFMP planning area, and 4,933 acres are within the adjacent areas of influence. The Proctor Valley Parcel, although part of the Otay GDP, will receive water from OWD's Central Area System.

The Proctor Valley Parcel involves two urban villages and two planning areas which would include single-family dwelling units, parks, schools, and open space. Village 13 is also known as the Resort Parcel and would include a resort village with a resort/hotel, commercial uses, parks, and single and multi-family residential areas. ~~3,003 single-family dwelling units, 1,558 multi-family dwelling units, 13 acres of parks, 19 acres of community purpose facilities, 10 acres of schools, 3 acres of commercial property, 5,517 acres of open space, and 561 acres of transportation uses. Village 13 would include a resort village containing a golf course, resort center, conference center, commercial uses, parks, low and medium-density residential areas.~~

The portion of the Proctor Valley Parcel within the WFMP planning area includes Village 14 and Planning Areas 16 and 19 would have 2,213 single-family dwelling units, 125 multi-family dwelling units, an elementary school, fire station/sheriff facility, numerous private and public parks, and commercial development. ~~which would consist of 1,773 single-family dwelling units, 150 multi-family dwelling units, an elementary school, and a neighborhood park.~~ The portion of the parcel within Village 13 would include 1,938 single-family/multi-family dwelling units, a resort, commercial development, fire station/sheriff facility, and public and private parks. ~~the WFMP adjacent areas of influence is known as the Resort Parcel, or Village 13. The land use mix would include 1,230 single-family dwelling units, 1,408 multi-family~~

~~dwelling units, a hotel, a recreation/visitor center, commercial areas, and neighborhood parks.~~ Village 13 is anticipated to be annexed into OWD to receive water service.

San Ysidro Mountain Parcel

The land areas included within the 5,555-acre San Ysidro Mountains Parcel are known as Village 15 and Planning Area 17. Since adoption of the 2002 WRMP, portions of Village 15 have been purchased for conservation or mitigation lands, which may not have recorded open space easement ~~has been recorded as open space preserve~~. Planning Area 17 is located within the OWD Regulatory System, and is planned to include estate residential units. ~~296 single-family units on 800 acres. Over 85 percent of the parcel is designated as open space.~~ The entire parcel lies within the WFMP adjacent areas of influence.

City of San Diego – Otay Mesa Community Plan

The Otay Mesa Community Planning Area (OMCPA) is a dynamic and rapidly developing area within the city of San Diego. This 9,300-acre area is bounded by the Otay River Valley and the city of Chula Vista on the north, the International Border on the south, I-805 on the west, and unincorporated county of San Diego on the east. The WFMP planning area encompasses the east portion of the OMCPA and a small notch on the north side of the OMCPA.

It is envisioned that Otay Mesa would be a major employment center and home to a future population of 32,000 residents. The City of San Diego is updating the Otay Mesa Community Plan, originally adopted in 1984. The intent of the update is to establish a framework for future development that would raise the standard of expectations for Otay Mesa and meet the housing demand projected for the city of San Diego. The existing OMCPA is largely comprised of industrial and park/open space land uses. The proposed OMCPA Update alternatives would reduce the amount of industrial development and increase the percentage of residential development, including the addition of a mixed-use Village Center development concept. Three alternative land use proposals have been presented to the community, and developers are proceeding with planning elements based on one or more of these alternatives. The Otay Mesa Community Plan Update was adopted in 2014.

County of San Diego – South District

The County of San Diego's East Otay Mesa SPA is bounded by the city of San Diego on the west, the International Border on the south, and the San Ysidro Mountains on the east. To the immediate north are the existing 773.5-acre Richard J. Donovan State Correctional Facility and the 519-acre George F. Bailey and East Mesa County Detention Center.

The East Otay Mesa SPA encompasses approximately 3,300 gross acres and would include 1,418 acres of mixed industrial uses (43 percent of the SPA) to accommodate wholesale storage and distribution, warehousing, research services, and general industrial uses. Additional planned land uses include very low-density rural residential development in the hillside areas ~~(495 acres)~~, a third border crossing facility ~~(74 acres)~~, commercial uses ~~(987 acres)~~, and open space ~~(292 acres)~~.

There are several development projects being planned within the East Otay Mesa SPA as described below.

Sunroad Technical Centre

This 253 acre project will include a 64 acre technology park and also includes 8 acres of commercial space, approximately 3,200 residential units, and 55 acres of open space. This development will be located north of Otay Mesa Road and just east of the SR-125 Toll Road. ~~This project would include over 190 acres of industrial development north of Otay Mesa Road and just east of the SR-125 Toll Road.~~

In addition to the East Otay Mesa SPA, the county's South District includes areas immediately north of Chula Vista, along the SR-125 corridor. Major planned developments in these areas are described below.

Bonita Meadows

This project site is located in the OWD Central Area System, and is generally bounded by Proctor Valley Road and San Miguel Ranch on the east, Sweetwater Reservoir on the north, and existing development on the west and south. This project is comprised of approximately 264 gross acres and would include 496 single-family dwelling units and about 2 acres for community purpose facilities. About 209 acres is intended for open space and roadway purposes.

Simpson Farm

This project site is generally bounded by Campo Road on the south, Jefferson Road on the west, and Olive Vista Drive on the north, and is within the OWD Regulatory System. This project consists of approximately 158 gross acres and would include 98 low-density, single-family dwelling units on 123 acres, a 13-acre commercial site, 15 acres for roadways, and 7 acres of open space.

Rancho Jamul Estates

This project site is generally located north of Campo Road and is within the OWD Regulatory System. This project consists of approximately 788 gross acres and would include 151 very-low-density, single-family dwelling units and about 163 acres of open space. Two of the three units planned for this development are complete.

Rancho Jamul Grande

This project site is generally located north of Campo Road, within the OWD Regulatory System, and is surrounded by the planned Rancho Jamul Estates development project. This project consists of approximately 130 gross acres and would include 23 very-low-density, single-family dwelling units and about 45 acres of open space.

5.2 Cumulative Projects in the Unincorporated Portions of the WFMP Planning Area

The County of San Diego General Plan Update will guide future land development within the county's jurisdiction. However, within the unincorporated areas of the county there are a number of ongoing development projects that are in the approval process, or have recently been approved and are currently under construction, that are not represented in the General Plan Update land use map. These projects largely consist of private development proposals that require approvals such as general plan amendments, specific plans and amendments, tentative maps/tentative parcel maps, and major use permits. Table 5-5 lists the cumulative projects within the unincorporated portions of the WFMP planning

area and adjacent areas of influence that have been included in the cumulative analysis. A summary of the types of approvals associated with this project list is provided below.

Table 5-5 Cumulative Projects in the Unincorporated Portions of the WFMP Planning Area

Project Name	Required Approvals[1]	Community	Dwelling Units	Acres
Burke Otay Logistics	Minor UP	East Otay Mesa SP	0	15
California Crossing	MUP/TM	East Otay Mesa SP	0	29.6
Hawano Subdivision	TM	East Otay Mesa SP	0	79.6
Otay Ranch Resort Village (GPA 04-03)	GPA/SP/TM/REZ/MUP	Otay SRP	1,938	1,869
Village 14 and Planning Area 16 and 19	GPA/SP/TM/REZ/MUP	East Otay Mesa SP	2,123	1,200
Otay 250 – Sunroad East Otay Mesa Bus.	SP/REZ/TM	East Otay Mesa SP	3,158	253
International Industrial Park	MUP	East Otay Mesa SP	0	37
Metropolitan Air Park/Brown Field	MPDP/SDP	City of San Diego	0	331
National Enterprise Storage	MUP	East Otay Mesa SP	0	N/A
Otay Business Park	TM	East Otay Mesa SP	0	161.6
Otay Crossings Commercial Park	TM	East Otay Mesa SP	0	82
Piper Park	TM	East Otay Mesa SP	0	24.84
Rabago Tech Business Park	TM	East Otay Mesa SP	0	71
San Diego Correctional Facility	MUP	East Otay Mesa SP	0	N/A
SR-11 Extension		East Otay Mesa SP	0	N/A

[1] GPA = General Plan Amendment; MPDP = Master Planned Development Permit; MUP = Major Use Permit; REZ = Rezone; SDP = Site Development Permit; SP = Specific Plan; SRP = Subregional Plan; TM = Tentative Map; TPM = Tentative Parcel Map; UP = Use Permit.
Source: DPES 2016

~~**Table 5-5 Cumulative Projects in the Unincorporated Portions of the WFMP Planning Area**~~

~~Project Name~~	~~Required Approvals[1]~~	~~Community~~	~~Dwelling Units~~	~~Acres~~
~~Hoskings Ranch, Genesee Properties~~	~~TM~~	~~Jamul/Dulzura~~	~~33~~	~~1,417.40~~
~~Pacific Scene (GPA 06-002)~~	~~GPA/SP/TM/REZ~~	~~Jamul/Dulzura~~	~~55~~	~~85.97~~
~~Preski/Gonya (TPM 20720)~~	~~TPM~~	~~Jamul/Dulzura~~	~~4~~	~~40.33~~
~~Pijnenburg (TPM 20778)~~	~~TPM~~	~~Jamul/Dulzura~~	~~5~~	~~76.40~~
~~Jamul (TPM 20786)~~	~~TPM~~	~~Jamul/Dulzura~~	~~1~~	~~43.69~~
~~Hoskings Ranch Road (TPM 20863)~~	~~TPM~~	~~Jamul/Dulzura~~	~~3~~	~~150.27~~
~~Swift (TPM 20903)~~	~~TPM~~	~~Jamul/Dulzura~~	~~1~~	~~16.42~~
~~Skyline Truck Trail (TPM 21028)~~	~~TPM~~	~~Jamul/Dulzura~~	~~5~~	~~47.78~~
~~Ava Loma III (TPM 21039)~~	~~TPM~~	~~Jamul/Dulzura~~	~~4~~	~~87.90~~
~~Allen (TPM 21045)~~	~~TPM~~	~~Jamul/Dulzura~~	~~2~~	~~24.14~~
~~Hamilton (TPM 21060)~~	~~TPM~~	~~Jamul/Dulzura~~	~~2~~	~~24.29~~
~~Renteria (TPM 21107)~~	~~TPM~~	~~Jamul/Dulzura~~	~~4~~	~~60.38~~
~~Tibbot (TPM 20686)~~	~~TPM~~	~~Jamul/Dulzura~~	~~4~~	~~35.51~~
~~Robnett TPM 20726~~	~~TPM~~	~~Jamul/Dulzura~~	~~5~~	~~85.95~~
~~Titus Project (TPM 20965)~~	~~TPM~~	~~Jamul/Dulzura~~	~~3~~	~~11.10~~
~~Fuerte Ranch Estates (GPA 03-006)~~	~~GPA/REZ/TM~~	~~Valle De Oro~~	~~40~~	~~26.89~~

~~[1] GPA = General Plan Amendment; REZ = Rezone; SP = Specific Plan; ; TM = Tentative Map; TPM = Tentative Parcel Map.~~
~~Source: DPLU 2008l~~

~~Table 5-6 List of Cumulative Projects in Vicinity of Proposed Project~~

~~Cumulative Project Number~~	~~Assessor's Parcel Number~~	~~Address/Location~~	~~Status/ Permit Type~~	~~Project Description~~
~~1~~	~~648-070-21-00~~	~~Southeast of the intersection of Alta Road and Airway Road~~	~~Tentative Map 5505R~~	~~Otay Business Park – Development of a 162-acre property that would include 58 industrial lots, two drainage/detention basin lots, open space, and 25 acres of on-site roads.~~
~~2~~	~~648-070-03-00, 648-080-27-00~~	~~Southeast of the intersection of Alta Road and Otay Mesa Road~~	~~Tentative Map 5405R~~	~~Otay Crossings Commerce Park – Development of a 312-acre property that would include 56 industrial lots, three open space lots, and two lots for temporary uses pending the construction of SR-11 and Otay Mesa East POE.~~
~~3~~	~~648-070-17-00~~	~~Southwest of the intersection of Alta Road and Airway Road~~	~~Tentative Map 5566~~	~~Development of an 80-acre site with 23 industrial lots on 66 acres, one detention basin lot on 2 acres, and provides approximately 12 acres of on-site roadways. The precise nature of land uses will be identified in the future.~~
~~4~~	~~648-080-27-00, 648-070-03-00, 648-070-21-00, 648-070-14-00, 648-070-33-00, 648-070-09-00~~	~~SR-11 would span from SR-905 to the Otay Mesa East POE, located at the U.S./ Mexico border east of the intersection of Alta Road and Siempre Viva Road~~	~~Tentative Map 5405R, Tentative Map 5505R, Under Construction~~	~~SR-11 and Otay Mesa East POE – Construction of a new toll highway, with connectors to SR-905 and associated modifications to SR-905; the Otay Mesa East POE; and a Commercial Vehicle Enforcement Facility.~~
~~5~~	~~N/A~~	~~South of the United States-Mexico border, at the intersection of Colina del Sol and Calle 12 Nte.~~	~~Conceptual Design Phase~~	~~Future Mexico East POE – Construction of a new border crossing facility in Mexico, connecting to the future Otay Mesa East POE.~~
~~6~~	~~648-070-33-00~~	~~Southwest of the intersection of Alta Road and Otay Mesa Road~~	~~Approved/ Completed~~	~~Copart Salvage and Auto Auction – Storage and sale of automobiles on a 38-acre site.~~
~~7~~	~~648-070-09-00~~	~~7113 Otay Mesa Road~~	~~Approved/ Completed~~	~~Travel Plaza – Storage and sale of automobiles on an 81-acre site.~~
~~8~~	~~648-040-35-00~~	~~7505 Paseo de la Fuente~~	~~Tentative Parcel Map 21140~~	~~Development of three residential lots and off-site improvements including roads, turn lanes, raised medians, and a bike lane.~~
~~9~~	~~648-040-36-00~~	~~7522 Paseo de la Fuente~~	~~Approved/ Completed~~	~~Vulcan Asphalt Plant – A concrete and asphalt batch plant located on a 13-acre site.~~
~~10~~	~~648-040-47-00, 648-040-43-00, 648-040-46-00~~	~~606 De la Fuente Court~~	~~Approved/ Completed~~	~~Otay Mesa Energy Center – Natural gas fired, combined-cycle electricity power plant.~~
~~11~~	~~648-040-11-00, 648-040-23-00, 648-040-28-00, 648-040-17-00, 648-040-27-00, 648-040-31-00, 648-040-34-00, 648-040-51-00~~	~~Northwest of the intersection of Alta Road and Paseo de la Fuente~~	~~Major Use Permit Modification 06-074, Major Use Permit 98-001~~	~~Otay Mesa Auto Transfer Facility/Salvage Yards – The recycling, sales, and storage of automobiles, scrap operations, wood and green waste recycling facilities, outdoor storage area, and 30,000 square feet of usable open space.~~
~~12~~	~~648-040-20-00, 648-040-25-00, 648-080-34-00, 648-080-35-00~~	~~Northwest of the intersection of Alta Road and Paseo de la Fuente~~	~~Tentative Map 5549~~	~~International Industrial Park – The project would subdivide 170 acres of vacant land into 10 parcels for technology/ business park use. 133 acres would be developed, 27 acres placed in open space, and 10 acres used for circulation streets.~~
~~13~~	~~646-040-20-00, 646-080-16-00, 648-011-04-00~~	~~480 Alta Road~~	~~Approved/ Completed~~	~~Richard J. Donovan Correctional Facility – A medium security prison on approximately 780 acres, including housing units, fitness areas, and associated inmate facilities.~~
~~14~~	~~648-040-26-00~~	~~480 Alta Road~~	~~Major Use Permit Modification~~	~~Richard J. Donovan Correctional Facility Level II Infill – Development of a single correctional facility on a 79-acre site, or a correctional facility complex on a 105-acre site, to add to the existing Richard J. Donovan Correctional Facility. Development~~

~~Table 5-6 List of Cumulative Projects in Vicinity of Proposed Project~~

~~Cumulative Project Number~~	~~Assessor's Parcel Number~~	~~Address/Location~~	~~Status/ Permit Type~~	~~Project Description~~
				~~would include the addition of either 792 beds or 1,594 beds to the site.~~
~~15~~	~~760-110-24-00~~	~~446 Alta Road~~	~~Approved/ Completed~~	~~Otay Mesa Detention Facility – A medium security facility consisting of four inmate housing dormitories, a mess hall, several classrooms, and staff administration offices. The facility has a capacity of 360 beds.~~
~~16~~	~~760-110-24-00~~	~~446 Alta Road~~	~~Approved/ Completed~~	~~George F. Bailey Detention Facility – A maximum security facility that includes six housing units, a medical area, and inmate processing area, and an administrative area. The facility has a capacity of 1,380 inmates and 220 staff members.~~
~~17~~	~~648-050-13-00, 648-080-21-00, 648-080-22-00, 648-090-01-00, 648-090-04-00~~	~~Approximately 0.5 mile east of Paseo de la Fuente~~	~~Conceptual Design Phase~~	~~East Otay Mesa Recycling and Landfill Facility – Development of a recycling center and class III solid waste landfill occupying 340 acres. The site would include a recycling collection center, lined landfill, scale area, borrow and stockpile area, leachate collection system, chipping and grinding area, storm water retention facilities, a new access route from Paseo de la Fuente, a visitors center, office building, and landfill gas collection and recovery system.~~
~~18~~	~~648-040-56-00~~	~~7488 Calzada de la Fuente~~	~~Commercial Structure Plan Check Permit PDS2013-COMACC-000221, Major Use Permit 3301-06-074-01~~	~~Otay Mesa Detention Facility – Development of two detention facility buildings totaling 512,982 square feet in two phases. Phase I includes a 1,492 bed detention facility, a dining area, classrooms, administrative offices, parking spaces, and an outdoor recreation area. Phase II would increase capacity by 1,408 beds, and include additional parking spaces and a recreational area.~~
~~19~~	~~648-010-31-00~~	~~440 Alta Road~~	~~Approved/ Completed~~	~~San Diego Regional Firearms Training Facility – An outdoor gun range and police training center on an approximately 12 acre site.~~

General Plan Amendments

General plan amendments are proposals to amend the general plan. Amendments may apply to any part of the general plan; however, private proposals are typically related to development that is more intense and/or of a different type than what is allowed under the current general plan. As such, they are commonly combined with specific plans, tentative maps, and/or major use permits.

Specific Plans/Specific Plan Amendments

Specific plans and specific plan amendments must comply with the current General Plan. One of the existing specific plans (Pacific Scene) is accompanied by a general plan amendment for higher intensity development than would be allowed under the existing General Plan. Additional specific plans include development in Villages 13 and 14 and Planning Areas 16 and 19 as described above in Section 5.1. These projects have ~~This project has~~ already been identified as part of the general plan amendment review process described above.

Tentative Maps/Tentative Parcel Maps

Tentative maps are subdivisions of land into five or more lots. Tentative parcel maps are subdivisions of land into four or fewer lots with the option to include a remainder lot (totaling no more than five lots).

Major Use Permits

Major use permits are used to permit specific unique uses. They include both large projects such as churches and camps and small projects such as cellular telecommunications sites. Major use permits are not directly implemented by the existing General Plan although they must comply with its goals and policies. The San Diego County Zoning Ordinance specifies the locations, specific uses, and conditions for application of major use permits. No major use permits were identified within the WFMP planning area.

5.3 Cumulative Projects on Tribal Lands (Sycuan Reservation)

OWD currently does not provide water service to tribal lands. However, the Sycuan Band of Kumeyaay Indians (the "Tribe") has the potential to annex into the OWD, SDCWA, and MWD service areas (refer to Figure 3-1). If the annexation is successful, OWD will develop facilities outside the boundaries of the tribal lands to deliver water to the Tribe. The Tribe will be responsible for the development of all internal delivery systems required within tribal lands, and will also be responsible for compliance with any applicable environmental requirements in connection with such facilities.

Planned development within the Sycuan tribal lands would include a new hotel (300 rooms) and commercial center (10.7 acres), and expansion of the casino (100,000 square feet), medical center (21,200 square feet) and fire/police department (1,600 square feet). These projects were considered as part of the cumulative analysis.

5.4 Cumulative Regional Energy and Utility Projects

The projected growth of the San Diego region will necessitate the development of new energy and utility projects to serve the forecasted population until 2030 and beyond. These projects include energy, telecommunications, railroad, water, wastewater, and desalination projects. A discussion of the proposed regional energy and utility projects in the WFMP planning area and adjacent areas of influence is provided below.

The California Energy Commission (CEC) is the State's primary energy policy and planning agency. The five major responsibilities of the CEC include: 1) forecasting future energy needs and keeping historical energy data; 2) licensing thermal power plants 50 megawatts (MW) or larger; 3) promoting energy efficiency through appliance and building standards; 4) developing energy technologies and supporting renewable energy; and 5) planning and directing the State's response to an energy emergency. Table 5-6~~5-7~~ lists the major energy projects that are under construction and/or permitted pending construction in the vicinity of the WFMP planning area and adjacent areas of influence. These projects were considered as part of the cumulative analysis.

Table 5-6 Regional Energy Projects

Name	Location	Description	Projected Completion Date
Pio Pico Energy Center	Western San Diego County	300 MW natural gas-fired, simple cycle power plant	September 2016
~~MMC Chula Vista Expansion – MMC Energy Inc.~~	~~San Diego County~~	~~110 MW simple-cycle electrical power plant facility~~	~~December 2009~~

Source: CEC 2016~~2008~~

The California Public Utilities Commission (CPUC) regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, passenger transportation companies, and authorizes video franchises in California. CPUC maintains an online project database. Projects on this database that have been considered in the cumulative impact analysis are listed in Table 5-7~~5-8~~.

Table 5-7 CPUC Projects

Name	Location	Description	Estimated Construction Completion
Salt Creek Substation Project	San Diego County	Construction of a new 120 MVA 69/12 kilovolt (kV) distribution substation in Chula Vista Construction and operation of a new 69kV single circuit powerline, approximately 5 miles in length, running between the proposed Salt Creek Substation and the existing Miguel Substation Construction and operation of an underground loop-in of the 69kV powerline to the proposed Salt Creek Substation Installation of a new 69kV powerline position at the existing Miguel Substation to connect the new powerline	Late 2017

Source: CPUC 2016

5.5 Cumulative Impacts by Resource

Air Quality

Consistency with Applicable Air Quality Plans

As indicated in Table 5-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to criteria air pollutants is the SDAB. Cumulative development is not expected to result in a significant impact in terms of conflicting with, or obstructing implementation of, the SDAPCD air quality management plans and the California SIP. As stated within Section 4.1.3.1 (Issue 1), calculations of future capacity needs under the 2015 WFMP Update were based upon growth assumptions from SANDAG, as were the SDAPCD San Diego 2009 RAQS and the SIP. As such, the 2015 WFMP Update is consistent with the applicable SDAPCD air quality management plan and the SIP, and it would not conflict with or obstruct implementation of the applicable air quality plan. Therefore, no cumulatively considerable contribution would occur.

Consistency with Air Quality Standards

As indicated in Table 5-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to criteria air pollutants is the SDAB. As noted in Section 4.1.2.1 (Federal Regulatory Framework) of this PEIR, the SDAB designated as being in non-attainment for the federal standards PM_{10} and $PM_{2.5}$, the state 1-hour standard for ozone and the state and federal 8-hour standard for ozone. Therefore, the baseline cumulative impact to the SDAB due to air pollution from stationary and mobile source emissions associated with basin-wide polluting activities is significant.

As discussed in Section 4.1.3.2 (Issue 2) of this PEIR, all CIP construction projects proposed under the 2015 WFMP Update would be required to implement standard construction practices to reduce fugitive dust emissions and emissions associated with construction equipment (Air-SCP-1 and Air-SCP-2). Implementation of mitigation measure Air-1 would ensure that pollutant emissions generated from construction activities would be reduced to a less than significant level. Additionally, operational emissions associated with proposed CIP pump stations, reservoirs and pipelines would be negligible. Therefore, potential air emissions associated with construction and operation of the proposed CIP projects would not result in a cumulatively considerable contribution to the local cumulative impact area represented by the SDAB.

Biological Resources

The cumulative impact of concern for biological resources would be the potential regional loss of sensitive plants, animals, and vegetation communities. As indicated in Table 5-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to sensitive biological resources includes the natural habitats within and adjacent to CIP construction sites throughout the planning area. The cumulative projects listed in Tables 5-4 through 5-7~~5-8~~ of this PEIR would have the potential to contribute to cumulative direct and indirect impacts to sensitive plants and animals, and sensitive habitats. Sensitive species are designated as such due to their scarcity (e.g., threatened and endangered) throughout their habitat ranges. Therefore, the baseline cumulative impact to sensitive biological resources within and adjacent to the planning area (i.e., regional cumulative impact area) is significant.

As discussed in Section 4.2.3.1 of this PEIR, construction of some CIPs under the 2015 WFMP Update would have the potential to directly and indirectly impact sensitive plant and animal species and their associated habitats. However, implementation of performance measures Bio-1A through Bio-1G~~E~~ would reduce these project-related impacts to less than significant levels. Therefore, with implementation of performance measures Bio-1A through Bio-1G~~E~~, development of CIPs under the 2015 WFMP Update would not result in a cumulatively considerable contribution to the loss of sensitive biological resources within the regional cumulative impact area.

Cultural Resources

Archeological Resources

As indicated in Table 5-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to archaeological resources includes the planning area. Ground disturbance (e.g., grading, trenching, excavation) associated with implementation of some of the cumulative planned developments could have significant impacts to archaeological resources. Therefore, the baseline cumulative impact to

archaeological resources due to future development within the planning area (i.e., regional cumulative impact area) is significant.

As discussed in Section 4.3.3.2 of this document, ground-disturbing activities within native soils associated with CIP pipelines, reservoirs and pump stations could have significant impacts to potential archaeological resources. However, implementation of a cultural resources monitoring and data recovery program by a qualified archaeologist would reduce these potential impacts to a less than significant level. Therefore, with implementation of mitigation/performance measures Cul-2A through Cul-2D, construction of the above-listed CIP projects under the 2015 WFMP Update would not result in a cumulatively considerable contribution to the loss of archaeological resources within the regional cumulative impact area.

Human Remains

As indicated in Table 5-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to Native American human remains includes the planning area. Ground disturbance (e.g., grading, trenching, excavation) associated with implementation of some of the cumulative planned developments could have significant impacts to human remains. Therefore, the baseline cumulative impact to human remains due to future development within the planning area (i.e., regional cumulative impact area) is significant.

As discussed in Section 4.3.3.3 of this document, implementation of the 2015 WFMP Update would be required to comply with provisions of the California Health and Safety Code Section 7050.5 and PRC Section 5097.98 relevant to the discovery, treatment, evaluation, and reburial of human remains. Therefore, with implementation of Cul-SCP-1, the construction of certain CIP projects under the 2015 WFMP Update would not result in a cumulatively considerable contribution to the loss of Native American human remains within the regional cumulative impact area.

Energy

Once constructed, the operation of the proposed CIP projects would require a minimal amount of energy to operate. In addition, the implementation of measures Ene-PDF-1 through Ene-PDF-4 would ensure that the CIP projects would employ energy-efficient features and prevent project-related lighting from disrupting adjacent native habitats. Therefore, the contribution of the 2015 WFMP Update would not have a cumulatively considerable contribution to inefficient, wasteful or unnecessary use of energy.

Geology, Soils, and Paleontology

As indicated in Table 5-1 of this PEIR, impacts relative to seismic hazards and other geologic/soil conditions (e.g., fault rupture, groundshaking, ground failure, liquefaction/collapse, landslides, lateral spreading, subsidence, and expansive soils) are generally specific to the CIP project sites. Therefore, these issues are not subject to a cumulative impact analysis, and are not addressed in this section.

Soil Erosion

As indicated in Table 5-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to soil erosion encompasses the Sweetwater River, Otay River, and Tijuana River watersheds directly downstream from CIP construction sites (refer to Figure 4.7-1, Hydrological Units, of this PEIR). This is because rainfall erosion of soils exposed by land disturbance activities can lead to downstream sedimentation effects, as sediment-laden runoff is carried along drainage facilities and natural water

courses by storm water flows. Land disturbance activities may include agricultural practices, cattle grazing and land development (e.g., vegetation clearing, grading, excavation, trenching), and these activities are expected to continue in the vicinity of the Sweetwater River Otay River, and Tijuana River watersheds. Even with the promulgation of NPDES storm water regulations, land disturbance associated with development activities throughout these watersheds continues to contribute, however incrementally, to the overall sedimentation problems observed in runoff flows that discharge into watercourses, lagoons, and eventually the Pacific Ocean. Therefore, the baseline cumulative impact to the Sweetwater River, Otay River, and Tijuana River watersheds (i.e., local cumulative impact areas) due to downstream sedimentation effects from soil erosion associated with basin-wide land disturbance activities is significant.

As discussed in Sections 4.5.3.2 and 4.5.3.3, all CIP construction projects under the 2015 WFMP Update would be required to implement recommendations provided in site-specific geotechnical investigations, and standard erosion control measures in accordance with NPDES regulations. Therefore, with implementation of Geo-PDF-1, Geo-SCP-2 and Geo-SCP-3, land disturbance activities associated with the CIP construction projects would not result in a cumulatively considerable contribution to downstream sedimentation effects from soil erosion within the local cumulative impact areas.

Paleontological Resources

As indicated in Table 5-1 of this PEIR, the geographic context for the analysis of cumulative impacts to paleontological resources encompasses the paleontologically sensitive geologic formations within the planning area. Excavation activities associated with land development within these areas could have significant impacts to paleontological resources. Therefore, the baseline cumulative impact to paleontological resources due to excavation activities associated with future land development within the regional cumulative impact area is significant.

As discussed in Section 4.5.3.5 of this PEIR, paleontological monitoring would be conducted during excavation activities for certain CIP projects where there is a potential to impact such resources, and any significant fossils encountered would be salvaged and curated. Therefore, with implementation of mitigation/ performance measures Geo-5A through Geo-5D, excavation activities associated with certain CIP construction projects would not result in a cumulatively considerable contribution to the loss of paleontological resources within the regional cumulative impact area.

Global Climate Change

Due to the nature of assessment of greenhouse gas emissions and the effects of global climate change, impacts can currently only be analyzed from a cumulative context. Therefore, the analysis provided in Section 4.6.3.1 (Issue 1) includes the analysis of both the 2015 WFMP Update and cumulative impacts.

Hydrology and Water Quality

Impacts relative to mudflows are generally specific to the CIP project sites; therefore, this issue is not subject to a cumulative impact analysis, and is not addressed in this section.

Water Quality

As indicated in Table 5-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to water quality standards encompasses the portions of the Tijuana, Otay, and Sweetwater watersheds

directly downstream from the CIP projects (see Figure 4.7-1). Water quality is an issue within these watersheds, as documented in the Surface Water Ambient Monitoring Program (SWAMP) reports. Land disturbance and development activities are expected to continue in the vicinity of these watersheds. Even with the promulgation of NPDES storm water regulations, land disturbance and development activities throughout these watersheds continue to contribute, however incrementally, to the overall water quality problems observed in runoff flows that discharge into watercourses, lagoons, and eventually the Pacific Ocean. Therefore, the baseline cumulative impact to the Otay, Sweetwater, and Tijuana watersheds (i.e., regional cumulative impact area) due to downstream water pollution effects is significant.

As discussed in Section 4.7.3.1 (Issue 1), all CIP construction contractors are required to implement construction and post-construction BMPs in accordance with either an Erosion Control Plan (for projects that would result in less than one acre of land disturbance), pursuant to the storm water regulations or ordinances of the local agency jurisdiction within which the CIP project occurs, or in accordance with a SWPPP (for any project greater than one acre in size), pursuant to the NPDES General Construction Permit. In addition, as described in Hyd-SCP-1, all CIP construction contractors are required to implement a safety plan for the transport, storage, use, and disposal of hazardous materials associated with CIP construction activities. These plans would also identify construction BMPs to reduce impacts to surface water quality due to storm water runoff pollution from construction sites including, but not limited to, erosion control/stabilizing measures in cleared areas and on graded slopes (e.g., geotextiles, mats, fiber rolls, soil binders, temporary hydroseeding); sediment controls (e.g., temporary inlet filters, silt fences, fiber rolls, gravel bags, temporary sediment basins, check dams, street sweeping, energy dissipaters); and stabilized construction access points (e.g., temporary gravel or pavement) and sediment stockpiles (e.g., silt fences and tarps). For long-term operations at CIP reservoirs and pump stations that would involve the transport, storage, use, and disposal of hazardous materials, OWD would prepare and implement a HMBP and obtain and comply with a County DEH permit, as described in Hyd-PDF-1. The HMBP would identify post-construction BMPs to reduce potential impacts to surface water quality due to storm water runoff pollution from developed sites including, but not limited to, containment of chemical spills (e.g., absorbent, physical barriers, or other methods) by trained employees using proper protective equipment and disposal of waste in a properly labeled container; and notification of emergency response agencies for major chemical spills. Therefore, construction and operation activities associated with the CIP projects would not result in a cumulatively considerable contribution to downstream water pollution effects within the regional cumulative impact area.

Groundwater Quality, Supplies and Recharge

As indicated in Table 5-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to groundwater quality, supplies and recharge encompasses the San Diego Formation, Sweetwater, and Otay Valley groundwater basins (Figure 4.7-3). As documented in the Groundwater Assessment Study (MWD 2007), groundwater quality continues to be a problem in the Sweetwater Basin, although the quality of groundwater is unknown in the Otay Valley Basin. Therefore, the baseline cumulative impact to these basins (e.g., the local cumulative impact area) due to groundwater quality is significant.

As stated in Section 4.7.3.2 (Issue 2), P2391 (PS - Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (PL - 624/340 PRS, Heritage Road and Hard Rock Road), P2579 (PS - Temporary Lower Otay Pump Station Rehabilitation), and P2392 (PS -Lower Otay PS Replacement and Expansion - from 12,500 to 18,000 gpm) would be adjacent to the Sweetwater and Otay Valley Basins. Construction, development and operation of these CIP projects, combined with the

cumulative projects identified in Chapter 4 of this PEIR, could potentially lead to discharges that could impact groundwater quality in nearby groundwater aquifers. However, implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, and Hyd-PDF-1 would reduce potential groundwater quality impacts due to storm water runoff pollution associated with construction, development and long-term operations at P2391 (PS - Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (PL - 624/340 PRS, Heritage Road and Hard Rock Road), P2579 (PS - Temporary Lower Otay Pump Station Rehabilitation), and P2392 (PS -Lower Otay PS Replacement and Expansion - from 12,500 to 18,000 gpm). Therefore, implementation of the 2015 WFMP Update would not result in a cumulatively considerable contribution to groundwater quality impacts within the local cumulative impact area.

As documented in the Groundwater Assessment Study (MWD 2007), the Sweetwater Basins are not within an overdraft state, and the overdraft state of the Otay Valley Basin is unknown. Therefore, the baseline cumulative impact to these basins (i.e., the local cumulative impact area) due to groundwater recharge is less than significant. In addition, there would be no impacts to groundwater supplies and recharge from CIP projects under the 2015 WFMP Update. As such, implementation of the 2015 WFMP Update would not result in a cumulatively considerable contribution to groundwater supplies/recharge within the local cumulative impact area.

Alteration of Drainage Patterns

As indicated in Table 5-1 of this PEIR, the geographic context for the analysis of various cumulative water quality and hydrological impacts relative to localized alteration of drainage patterns encompasses the portions of Sweetwater, Otay, and Tijuana watersheds directly downstream from the CIP projects (see Figure 4.7-1) and the San Diego Formation, Sweetwater, and Otay Valley groundwater basins (see Figure 4.7-3). Land disturbance and development activities are expected to continue in the vicinity of these watersheds and basins. Even with the promulgation of NPDES storm water regulations, land disturbance and development activities throughout these watersheds and basins continue to contribute, however incrementally, to the overall surface and groundwater quality and flooding problems in the planning area and in the downstream watercourses and lagoons leading to the Pacific Ocean. Therefore, the baseline cumulative impact to the Sweetwater, Otay, and Tijuana watersheds and the San Diego Formation, Sweetwater, and Otay Valley groundwater basins (i.e., regional cumulative impact area) due to water quality and flooding effects from discharges of storm water associated with alterations of drainage patterns is significant.

As discussed in Section 4.7.4.2, with implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, Hyd-PDF-1 and Hyd-PDF-2, construction and operation of CIP projects under the 2015 WFMP Update would not result in a cumulatively considerable contribution to surface and groundwater quality impacts, and impacts to groundwater supplies/recharge, flooding, and exceedance of capacity of storm water drainage facilities, due to alteration of localized drainage patterns within the regional cumulative impact area.

Landform Alteration and Visual Aesthetics

Implementation of the 2015 WFMP Update, in conjunction with other reasonably foreseeable development within the planning area (refer to Tables 4.8-1 and 4.8-2 ~~4-6 through 5-10~~ in Chapter 4 of this PEIR), could result in cumulative aesthetic effects related to scenic vistas and visual character. Visual impacts associated with glare tend to occur on a localized level, and has limited potential for related cumulative effects. Therefore, this issue is not subject to a cumulative impact analysis, and is not addressed in this section.

Scenic Vistas

As indicated in Table 5-1 of this PEIR, the geographic context for the analysis of cumulative impacts to scenic vistas encompasses the public viewsheds from which above-ground CIP projects would be visible. As discussed in Section 4.8.3.1 (Issue 1), implementation of Aes-PDF-1 would ensure that the CIP projects within the 2015 WFMP Update do not disrupt any publicly available scenic vistas. Therefore, with implementation of Aes-PDF-1, development of the CIP projects under the 2015 WFMP Update would not result in a cumulatively considerable contribution to scenic vistas within the local cumulative impact areas.

Visual Character

As described in Table 5-1 of this PEIR, the geographic context for the analysis of cumulative impacts to visual character encompasses the public viewsheds from which above-ground CIP projects would be visible. The City of San Diego, City of Chula Vista, and County of San Diego have all projected growth and development within the portions of their jurisdictions that occur within the WFMP planning area. ~~As identified in Table 4-7 in Chapter 4 of this PEIR, a total of 17,424 r~~Residential dwelling units~~ spanning 5,425 acres~~, ~~1,085 acres of~~ commercial development, and ~~7,086 acres of~~ industrial development would occur within these jurisdictions and the WFMP planning area, and could result in significant visual character impacts. In addition, several other planned developments listed in Table 5-5 ~~4-6 and Tables 4-8 through 5-10 in Chapter 4 of this PEIR~~ could result in significant visual character impacts. Therefore, the baseline cumulative impact to visual character due to construction and development within the WFMP planning area (i.e., local cumulative impact areas) is significant.

As discussed in Section 4.8.3.2 (Issue 2), all disturbed areas remaining after construction of the CIP projects would be landscaped, and appropriate building materials and colors would be used for CIP reservoirs, pump stations, pipelines, and groundwater well buildings to visually blend them in with their surroundings. Therefore, with implementation of Aes-PDF-1, development of the CIP projects under the 2015 WFMP Update would not result in a cumulatively considerable contribution to visual character impacts within the local cumulative impact areas.

Land Use and Planning

Cumulative impacts are evaluated for environmental issues for which the impacts associated with implementation of the 2015 WFMP Update would be significant or less than significant. Since implementation of the 2015 WFMP Update would not physically divide an established community or conflict with any land use plan, policy or regulation of the County of San Diego, City of Chula Vista, or City of San Diego, these issues are not addressed in this section.

Conflicts with HCPs/NCCPs

As indicated in Table 5-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to conflicts with HCPs/NCCPs includes all of the open space reserves within and adjacent to the planning area, as identified by the MSCP subarea plans of the County of San Diego, City of Chula Vista, and City of San Diego. Land disturbance and construction activities associated with some of the cumulative projects identified in Chapter 4 of this PEIR may result in indirect impacts to biological resources within these MSCP reserves (e.g., downstream siltation, storm water runoff pollution, lighting, noise, etc.). Therefore, the baseline cumulative impact to the MSCP reserves within and adjacent to the planning area (i.e., regional cumulative impact area) due to indirect effects and conflicts with land use adjacency guidelines is significant.

As discussed in Section 4.9.3.1 of this PEIR, all CIP projects under the 2015 WFMP Update that would be located within or adjacent to a MSCP reserve would be designed to incorporate the respective land use adjacency guidelines of the County of San Diego, City of Chula Vista, and City of San Diego MSCP Subarea Plans. These guidelines include, but are not limited to, landscaping with native plants indigenous to the area; fencing or other barriers to prevent uncontrolled human access; installation of drainage features to prevent discharge of storm water runoff pollutants; installation of acoustical louvers in pump station buildings to reduce operational noise levels; and temporary noise walls or berms to reduce construction noise levels. Therefore, with implementation of LU-PDF-1 through LU-PDF-3, Noi-PDF-1, and mitigation measure Bio-1C potential indirect impacts from these CIP projects on biological resources in and adjacent to the MSCP reserves would not result in a cumulatively considerable contribution to conflicts with HCPs/NCCPs within the regional cumulative impact area.

Noise

Noise by definition is a localized phenomenon, and decreases in magnitude as distance from the source increases. Cumulative development in the areas immediately adjacent to CIP projects could result in a cumulative impact in terms of a substantial increase in ambient noise levels if multiple projects were constructed simultaneously. Consequently, only NSLU adjacent to CIP construction sites and pump stations, and NSLU adjacent to roadways and freeways used by construction-related traffic along which the projected increase in CIP construction traffic may exceed noise standards, would be affected by cumulative noise impacts.

As discussed in Section 4.10.3.1 of this PEIR, substantial permanent ambient noise increases could potentially result from transportation noise sources and operational noise sources. The maintenance for most of the CIP projects may require approximately one visit per day by OWD employees. CIP projects located within the Regulatory potable water operating system may require as many as 5-10 trips per day. Due to the minimal number and the geographic distribution of vehicular trips associated with the maintenance of the CIP projects, audible transportation noise increases in comparison to existing conditions would be negligible. In addition, operational noise sources from CIP water storage projects and pipelines would be negligible. Implementation of Noi-PDF-1 would reduce potential operational noise impacts from CIP pump station and water supply projects to a less than significant level. Therefore, operation of the proposed CIP projects would not result in a significant increase in ambient noise levels and would therefore not result in a cumulatively considerable contribution to the local cumulative impacts areas surrounding each CIP project site.

Temporary Increases in Ambient Noise

As discussed in Section 4.10.3.2 (Issue 2) of this PEIR, all CIP construction projects under the 2015 WFMP Update would be required to comply with applicable local noise ordinances and regulations specifying sound control (Noi-SCP-1), and implement the OWD Standard Specifications for Explosives and Blasting (Noi-SCP-2). Therefore, temporary noise levels associated with CIP construction activities would not result in a cumulatively considerable contribution to noise impacts within the local cumulative impact areas surrounding each CIP project site.

Generation of Groundborne Vibration

Cumulative development within the planning area is not likely to result in the exposure of people to, or the generation of, excessive groundborne vibration due to the localized nature of vibration impacts, and the likelihood that all construction would not occur at the same time or at the same location. Therefore, temporary impacts from excessive groundborne vibration associated with cumulative development and CIP construction activities would not be cumulatively considerable.

With regard to cumulative groundborne vibration due to CIP operations, it is not expected that growth within the planning area would lead to a cumulatively significant impact. The land uses surrounding the CIP project sites are predominantly residential and open space, and to a lesser degree commercial and industrial. These land uses, with the exception of industrial, would not result in groundborne vibration. Therefore, permanent impacts from excessive groundborne vibration associated with CIP operations and existing/planned land uses surrounding each CIP project site would not be cumulatively considerable.

Public Safety

Impacts relative to listed hazardous materials sites and emergency response and evacuation plans are generally specific to the CIP sites; therefore, these issues are not subject to a cumulative impact analysis, and are not addressed in this section.

As indicated in Table 5-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to the transport, use and disposal of hazardous materials, and associated accidental releases, encompasses the roadways and freeways used by vehicles transporting hazardous materials to and from the CIP construction sites, and the CIP reservoirs and pump stations that involve the use of hazardous materials (e.g., chlorine gas for injection treatment of the potable water supply). Construction activities associated with many of the cumulative projects ~~listed in Tables 4-6 through 4-9 in Chapter 4 of this PEIR~~ could also involve the transport, use and disposal of hazardous materials, and associated accidental releases, along the circulation system within the planning area. Therefore, the baseline cumulative impact to public safety from potential exposure to hazardous materials related to the transport, use, and disposal of hazardous materials, as well as the associated accidental releases into the environment and near schools within the planning area circulation system (i.e., regional cumulative impact area) is significant.

As discussed in Section 4.11.3.1 (Issue 1) of this PEIR, all CIP construction contractors are required to implement a HMBP to allow for the transportation, storage, use, and disposal of hazardous materials during CIP construction activities. In addition, OWD is required to implement a post-construction HMBP to allow for the transportation, storage, use, and disposal of hazardous materials for CIP reservoir, pump station and groundwater well operation. Therefore, with implementation of Haz-SCP-1 and Haz-PDF-1, the construction and operation of CIPs under the 2015 WFMP Update would not result in a cumulatively considerable contribution to public hazards related to the transport, storage, use, or disposal of hazardous materials, and associated accidental releases into the environment and near schools, within the regional cumulative impact area.

Transportation/Traffic

Cumulative impacts are evaluated for environmental issues for which the impacts associated with implementation of the 2015 WFMP Update would be significant or less than significant. Impacts relative to transportation and traffic are generally specific to the CIP project sites at which the projected increase

in construction traffic would exceed 50 peak-hour trips as indicated in Table 5-1 of this PEIR. As described, construction would take place throughout the planning area so that even if multiple CIPs are under construction simultaneously, construction would not be concentrated in one area. Such incremental increases in vehicle trips would not be substantial in relation to the existing traffic load and capacity of intersections, street segments and freeways within the planning area. Therefore, these issues are not subject to a cumulative impact analysis, and are not addressed in this section.

5.6 References

Atkins. 2016. Draft 2015 Otay Water District Water Facilities Master Plan Update. May.

Chapter 6 OTHER CEQA CONSIDERATIONS

CEQA Guidelines Section 15128 requires that an EIR disclose the reasons why various possible environmental effects of a proposed project are found not to be significant and, therefore, are not discussed in detail in the EIR. Environmental issues found to have potentially significant impacts are addressed in Chapter 4 of this PEIR. Chapter 4 also discusses issues that were found to have no potential for a significant impact under the subsections titled "CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2015 WFMP Update" found at the end of each topical section. However, several issues that were found to have no potential for a significant impact or are not applicable to the 2015 WFMP Update did not fall under the topics analyzed in Chapter 4, and are therefore discussed in Sections 6.1 and 6.2 below.

Section 15126 of the CEQA Guidelines requires that all aspects of a project be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the following three issues are also addressed in this chapter:

- Growth-inducing impacts (Section 6.3);
- Significant environmental effects that cannot be avoided upon implementation of the 2015 WFMP Update (Section 6.4); and
- Significant irreversible environmental effects associated with implementation of the 2015 WFMP Update (Section 6.5).

6.1 Effects Found Not Significant

Implementation of the 2015 WFMP Update would not result in significant impacts to agricultural resources, and mineral resources, as discussed below and, therefore, further analysis in this PEIR is not necessary.

Agricultural Resources

Would implementation of the 2015 WFMP Update convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

According to the Farmland Mapping and Monitoring Program (FMMP) (FMMP 2012), none of the CIPs under the 2015 WFMP Update would be on land designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, no impacts to agricultural resources would occur as a result of implementation of the 2015 WFMP Update, and no further analysis is required.

Would implementation of the 2015 WFMP Update conflict with existing zoning for agricultural use, or a Williamson Act contract?

According to the FMMP, there are no portions of the planning area that are within or adjacent to a Williamson Act contract. Furthermore, pursuant to Section 53901 of the California Government Code, local agency zoning ordinances do not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water; therefore, agricultural zoning would not apply to CIPs under the 2015 WFMP Update. Accordingly, the 2015 WFMP Update would not conflict with any Williamson Act contracts or existing zoning for agricultural uses, and no further analysis is required.

Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) or Result in the loss of forest land or conversion of forest land to non-forest use?

According to review of land use and zoning maps for San Diego County, none of the CIPs under the 2015 WFMP Update would be on land zoned as forest land, timberland, or timberland production. Therefore, no impacts to forest lands or timberlands would occur as a result of implementation of the 2015 WFMP Update, and no further analysis is required (County 2011).

Would implementation of the 2015 WFMP Update involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland, to non-agricultural use or conversion of forest land to non-forest use?

Implementation of the 2015 WFMP Update would not convert agricultural lands to non-agricultural uses. Therefore, no impacts to agricultural resources would occur as a result of implementation of the 2015 WFMP Update, and no further analysis is required.

Mineral Resources

Would implementation of the 2015 WFMP Update result in the loss of availability of a known mineral resource that would be of value to the region and to the residents of the State, or result in the loss of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The majority of the western portion of the planning area is designated as Mineral Resource Zone 3 (MRZ 3; mineral resources potentially present) by the County of San Diego (County 2008), and portions of the Sweetwater and Otay river valleys and some of the minor drainages feeding into these rivers are designated as MRZ 2 (mineral resources present). Several of the new CIP reservoirs and pump stations under the 2015 WFMP Update would be constructed on disturbed sites adjacent to existing OWD facilities, and therefore would not result in the loss of potential mineral resources. Any CIPs constructed on undeveloped land would retain small development footprints CIPs and, therefore, would not result in a significant loss of known mineral resources or locally important mineral resource recovery sites, and no further analysis is required.

6.2 CEQA Checklist Items Not Applicable to the 2015 WFMP Update

The following four topics were not analyzed in Chapter 4 of this PEIR because they are not applicable to the 2015 WFMP Update: population and housing, public services, recreation, and utilities and service systems. The rationale for these findings are explained below.

Population and Housing

Implementation of the 2015 WFMP Update would not directly induce substantial growth, or displace substantial numbers of existing housing or people, otherwise necessitating the construction of new or replacement housing elsewhere. Key Project facilities identified in the 2015 WFMP would be developed in stages corresponding to planned population growth and development within the OWD service area. OWD does not approve or dictate how growth occurs. Therefore, there would be no impact to population housing, and no further analysis is required. The potential for the 2015 WFMP Update to induce substantial population growth, either directly or indirectly, is discussed in more detail in Section 6.3 below.

Public Services

Implementation of the 2015 WFMP Update would not result in impacts associated with maintaining acceptable service ratios, response times or other performance objectives for fire protection services, police protection services, schools, parks, or any other public facilities. Each respective planning jurisdiction's General Plan within OWD's service area provides a policy framework for providing public services. The policies address maintaining and improving necessary response times, maintaining a sufficient number of police officers and firefighters per capita, maintaining adequate amounts and types of equipment to provide necessary levels of service, maintaining and constructing adequate new firefighting infrastructure, incorporating public safety in design of structures and services, maintaining sufficient levels of fireflow, and coordinating development with planning for fire services, etc. As such, implementation of the 2015 WFMP Update would not require provision of new or physically altered fire protection, police protection, school, and park facilities, the construction of which could cause significant environmental impacts. Therefore, there would be no impact to public services, and no further analysis is required.

Recreation

Implementation of the 2015 WFMP Update would not impact the use of parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated, nor would it include require the construction or expansion of recreational facilities which may have an adverse physical effect on the environment. Therefore, there would be no impact to recreational facilities, and no further analysis is required.

Utilities and Service Systems

Implementation of the 2015 WFMP Update would not require increased capacity for wastewater treatment or sewer conveyance facilities or require or result in the construction or expansion of new wastewater treatment facilities, and therefore would not exceed wastewater treatment requirements of the San Diego RWQCB. Implementation of the 2015 WFMP Update would require construction of new,

and expansion of existing, OWD water facilities, the environmental effects of which are addressed in this PEIR. The 2015 WFMP Update would require the construction of limited storm water drainage facilities at new CIP reservoir and pump station sites (refer to Section 4.7.3.3, Hydrology and Water Quality, of this PEIR for discussion of required drainage basins and brow ditches). However, any required storm water drainage facilities have been included in the overall disturbance footprints for the new CIP reservoirs and pump stations, for which the corresponding environmental effects have been thoroughly addressed within this PEIR.

As stated in Section 3.4.1 (Purpose, Project Description) of this PEIR, the primary purpose of the 2015 WFMP Update is to ensure an adequate, reliable, flexible, and cost effective potable and recycled water storage and delivery system commensurate with growth within the planning area and adjacent areas of influence, consistent with SANDAG forecasts, through 2050. Because the 2015 WFMP Update would be in response to projected growth in the region (refer to Section 6.3 below), it would not result in the need for new or expanded water supplies. Rather, the evaluation of water supply capacity is typically conducted by lead agencies and water districts as part of the required CEQA approvals for new development or redevelopment projects that would require additional water supplies to serve those projects.

As discussed in Section 4.11 (Public Safety) of this PEIR, all demolition debris and construction waste associated with construction of CIPs under the 2015 WFMP Update would be properly handled and disposed of, in accordance with federal, state and local statutes and regulations related to solid waste. Moreover, the long-term operations of CIP reservoirs and pump stations under the 2015 WFMP Update would not generate solid waste that would impact the permitted capacity of area landfills.

6.3 Growth Inducement

As required by CEQA Guidelines Section 15126.2(d), an EIR must include a discussion of the ways in which a proposed project could directly or indirectly foster economic development or population growth, and how that growth would affect the surrounding environment. Growth can be induced in a number of ways, including the elimination of obstacles to growth, or through the stimulation of economic activity within the region. The discussion of the “removal of obstacles to growth” relates directly to the removal of infrastructure limitations or regulatory constraints that could result in growth unforeseen at the time of project approval. According to CEQA Guidelines Section 15126.2(d), “it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.” The CEQA Guidelines require a discussion of growth inducement, but not speculation as to when, where and what form growth may occur, as such speculation does not provide the reader with accurate or useful information about the project’s potential effects.

Future growth rates and associated water demands within the planning area were estimated within the 2015 WFMP Update to identify the CIPs that would be needed to serve OWD customers. As discussed in Chapter 4 (Cumulative Impacts and Mitigation) of this PEIR, data on future growth were obtained from SANDAG, the City of Chula Vista, and recent forecasts developed by the OWD. The following sections discuss these data sources, the growth rates estimated for the planning area, and how this data relates to direct and indirect growth inducement with regards to implementation of the 2015 WFMP Update.

San Diego Association of Governments

SANDAG is a regional planning agency comprised of 18 representatives from city and county governments within the San Diego area. SANDAG is the regional authority for the creation of planning, transportation, and growth forecast documents. The growth projections in the 2015 WFMP Update are based partly on SANDAG's 2050 Regional Growth Forecast (RGF) (Regional Transportation Plan 2050, Technical Appendix 2). The 2050 RGF provides a long-range forecast of population, housing, and employment that are used as a basic resource by elected officials, planners, academics, and the general public, and as the basis for the 2050 RTP. As such, the planning horizon for both the RGF and the 2015 WFMP Update is the year 2050.

With the exception of the portion of the planning area within Chula Vista, the 2015 WFMP Update utilized land use data from SANDAG as a basis for estimating and predicting future land use types and associated water consumption. As various land uses have different water requirements, these land use estimations were used to predict and size capacities for CIPs under the 2015 WFMP Update.

City of Chula Vista

The southern portion of the planning area is within the jurisdiction of the City of Chula Vista. Between the time frame of the 2009 WFMP and the present 2015 WFMP Update, Chula Vista has grown by nearly 2,000 new residential units (Atkins 2016). As such, future capacity and water consumption requirements within the portion of the planning area encompassed by Chula Vista were estimated by utilizing residential growth forecasts for the years 2015 through 2020 (Chula Vista 2015). In addition, the 2015 WFMP Update utilized information within Sub Area Master Plans (SAMPs), Specific/Sectional Plan Areas (SPAs), and the Otay Ranch General Development Plan (GDP) for specific development areas throughout Chula Vista.

OWD Forecasts

Estimated future capacity needs within the planning area were also calculated by utilizing the OWD's known water consumption data from water meters. This data was applied to land use predictions obtained from SANDAG and the City of Chula Vista to estimate future water consumption within undeveloped portions of the planning area.

Direct and Indirect Growth-Inducing Effects

Implementation of the 2015 WFMP Update would not directly create or induce growth within the planning area because the OWD has no land use authority and cannot approve land development. As stated in Section 6.3 above, indirect growth may result from the removal of physical impediments or restrictions to growth, as well as the removal of planning impediments resulting from land use plans and policies. In this context, physical growth impediments may include nonexistent or inadequate access to an area or the lack of essential public services (e.g., sewer service), while planning impediments may include restrictive zoning and/or general plan designations.

Many of the CIPs under the 2015 WFMP Update would be constructed at sites that contain existing OWD facilities; therefore, these projects would not result in indirect growth effects. The construction of new CIP facilities within undeveloped areas would be phased commensurate with planned growth; therefore, these projects would also not result in indirect growth effects because the timing of implementation is intended to serve the water delivery needs of specified planned developments as they are approved. In

other words, none of the CIPs under the 2015 WFMP Update would be developed in anticipation of unforeseen or unplanned future growth. Therefore, implementation of the 2015 WFMP Update would not be growth-inducing because it would not remove an impediment to growth.

Furthermore, construction of CIPs under the 2015 WFMP Update may generate new jobs throughout the planning area, but this additional economic activity would be incremental compared to the economic growth of the greater San Diego region. Therefore, implementation of the 2015 WFMP Update would not be growth-inducing because it would not foster substantial economic expansion or growth in the region.

6.4 Significant and Unavoidable Environmental Impacts

Section 15126.2(b) of the CEQA Guidelines requires the identification of significant impacts that would not be avoided, even with the implementation of PDFs, SCPs, and feasible mitigation/performance measures. The final determination of significance of impacts and of the feasibility of mitigation/ performance measures will be made by the OWD Board of Directors as part of their certification of this PEIR. Sections 4.1 through 4.12 of this PEIR provide a programmatic evaluation of the potentially significant environmental effects and corresponding mitigation/performance measures associated with implementation of the 2015 WFMP Update. According to this evaluation, all potential environmental effects would be reduced to less than significant levels with implementation of identified PDFs, SCPs and feasible mitigation/performance measures, and no significant unavoidable environmental impacts would remain.

6.5 Significant Irreversible Environmental Effects

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by a proposed project, as follows:

> 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 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.

Generally, a project would result in significant irreversible environmental changes if the:

- primary and secondary impacts would generally commit future generations to similar uses;
- project would involve a large commitment of nonrenewable resources;
- project involves uses in which irreversible damage would result from any potential environmental accidents associated with the project; or
- proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Development of potable and recycled water infrastructure under the 2015 WFMP Update would allow the OWD to continue to supply water to its current and future users within the planning area. Resources that would be permanently and continually consumed by implementation of the 2015 WFMP Update include water, electricity, natural gas, and fossil fuels. However, the amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources as discussed in Section 4.4 (Energy) of this PEIR. Nonetheless, construction and operations associated with implementation of the 2015 WFMP Update would result in the irretrievable commitment of nonrenewable energy resources. It is also possible that new technologies or systems would emerge, or would become more cost-effective or user-friendly, upon which OWD may rely to further reduce their reliance on nonrenewable energy resources. Overall, the consumption of natural resources associated with implementation of the 2015 WFMP Update is expected to increase at a lesser rate than the projected population increase within the planning area due to the variety of energy conservation measures that the OWD will continue to implement, expand and develop in their continual quest to achieve energy efficiency for their construction and operational activities (refer to Section 4.4, Energy, of this PEIR).

The CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by an accident. As discussed in Section 4.11 (Public Safety) of this PEIR, the OWD uses, transports, stores, and disposes of hazardous materials in accordance with applicable federal, state and local regulations, as well as with existing OWD programs, practices, and procedures related to hazardous materials, to reduce the likelihood and severity of accidents that would result in irreversible environmental damage. Therefore, implementation of Haz-PDF-1 would reduce hazards to the public or the environment through the transport, storage, use, or disposal of hazardous materials during CIP operations, and associated accidental releases of hazardous materials into the environment and near schools, to a less than significant level.

6.6 References

Atkins. 2016. Otay Water Facilities Master Plan Update. Chapter 3 Water Demand.

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Farmland Mapping and Monitoring Program (FMMP). 2012. San Diego County Important Farmland 2012, Sheet 1 of 2. Published: June 2015.

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Chapter 7 PROJECT ALTERNATIVES

CEQA requires an EIR to describe and evaluate a range of reasonable alternatives to a proposed project, or alternatives to the location of a proposed project. The purpose of the alternatives analysis is to explore ways that most of the basic objectives of a proposed project could be attained while reducing or avoiding significant environmental impacts of the project as proposed. This approach is intended to foster informed decision-making and public participation in the environmental process.

This chapter evaluates alternatives to the 2015 WFMP Update and examines the potential environmental impacts associated with each alternative. CEQA Guidelines indicate that EIRs are required to evaluate a "…range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project" (Section 15126.6[a] CEQA Guidelines). According to the Guidelines, not every conceivable alternative must be addressed, nor do infeasible alternatives need be considered. Section 15126.6 of the CEQA Guidelines lists the factors that may be taken into account when addressing the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, other plans or regulatory limitations, and jurisdictional boundaries. The Guidelines also state that the discussion of alternatives should focus on "…alternatives capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives could impede to some degree the attainment of the project objectives or would be more costly" (Section 15166.6[b] CEQA Guidelines). CEQA further directs that "…the significant effects of the alternatives shall be discussed, but in less detail than the significant effects of the project as proposed" (Section 15126.6[d] CEQA Guidelines).

Based on the CEQA Guidelines, the following alternatives to avoid or reduce significant project impacts were identified and are discussed in Section 7.2 below: No Project Alternative and Reduced Footprint Alternative.

7.1 Project Objectives

As stated in Section 3.4.2 (Goals and Objectives, Project Description) of this PEIR, the goals and objectives of the 2015 WFMP Update include the following actions:

- **Update Planning Criteria and the District's Hydraulic System Models**: Review and update, as necessary, the District's system performance criteria, and update the District's InfoWater system hydraulic models to account for new development and to maintain integration with the District's GIS system.
- **Map Out Water and Recycled Water Facility Improvements:** Identify and prioritize the District's facility needs, including transmission, storage, and pumping facilities, to serve projected future conditions.

- **Update OWD CIP:** Update the District's near-term (2020) and long-term (2050) CIP, based on a new demand forecast, new supply options and identified facility needs.
- **Identify Adaptive Responses to Changed Conditions:** Identify how needed facility improvements and CIP items would change should future demand and supply conditions vary from baseline assumptions.

7.2 Alternatives Analyzed

This section presents an evaluation of two alternatives to the proposed 2015 WFMP Update: No Project Alternative and Reduced Footprint Alternative. For both alternatives, a brief description is included, followed by a summary impact analysis relative to the 2015 WFMP Update, and an assessment of the degree to which the alternative would meet the goals and objectives of the 2015 WFMP Update.

No Project Alternative

Section 15126.6(e) of the CEQA Guidelines requires the No Project Alternative to be addressed in an EIR. Under this alternative, the OWD Board of Directors would not adopt the 2015 WFMP Update.

Impact Analysis

The No Project Alternative would not necessarily prevent the implementation of the CIP projects listed in the 2015 WFMP Update. Without the 2015 WFMP Update, these projects could still be constructed on an individual basis. The potential environmental impacts associated with implementation of the CIP projects identified in this PEIR would still occur. Under the No Project Alternative, impacts associated with individual CIP projects might not be reduced to less than significant levels with implementation of the various PDFs, SCPs, and mitigation/performance measures identified in this PEIR.

Ability to Accomplish Project Objectives

The No Project Alternative would not meet any of the four objectives identified for the 2015 WFMP Update. Under this alternative, OWD would not be able map out the District's facilities needs and would not be able to identify adaptive responses to changed conditions. This would hinder OWD's ability to meet the future water demands of the planning area. In addition, this alternative would deny OWD the opportunity to streamline the environmental review of future projects with this PEIR and subsequent tiered CEQA documents.

Reduced Footprint Alternative

The Reduced Footprint Alternative would reduce the size and capacity of several CIP projects located within sensitive biological resources. Refer to Tables 4.2-6, 4.2-7, and 4.2-8 in Section 4.2.3.1 (Biological Resources, Issue 1) for CIPs that are proposed to occur within areas containing these sensitive resources.

Impact Analysis

The Reduced Footprint Alternative may result in incrementally reduced impacts to biological resources, in comparison to the proposed CIP projects. However, biological impacts in undeveloped areas could still occur due to the presence of development and construction activities, and may not directly correlate to the development footprint. For example, decreasing the capacity of a CIP water storage project by a

certain percentage would still result in clearing, grading, and other initial land disturbances. Temporary impacts to air quality may incrementally decrease with this alternative, as it may take less time to construct smaller projects. Impacts to cultural resources may also be lessened due to the reduced development footprints of CIP projects. In general, the Reduced Footprint Alternative may result in less environmental impacts in comparison to the proposed CIP projects, but probably not to a substantial degree.

Ability to Accomplish Project Objectives

The Reduced Footprint Alterative would fully meet three out of four objectives identified for the 2015 WFMP Update, in addition to reducing potential impacts to air quality and biological and cultural resources. This alternative would not meet the following objective of the 2015 WFMP Update because the reduced sizes of some of the proposed and planned CIP facilities may not fully satisfy the water demands of the entire planning area and identified area of influence: Update the District's Capital Improvement Program and Identify Adaptive Responses to Changed Conditions. OWD is required to fulfill state, regional, and local polices which mandate the development of alternative water sources. The CIP projects listed in the 2015 WFMP Update are designed to meet the water demands of the planning area and identified area of influence based upon development patterns, types, location and timing. With the reduced CIP projects, additional facilities (pump stations, reservoirs and groundwater wells) may be needed in other locations to meet the water supply demands. This could result in increased impacts to air quality, cultural resources, energy consumption, landform alteration, water quality, and noise.

Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) requires that an EIR identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. The No Project Alternative would avoid all potentially significant environmental impacts identified for the 2015 WFMP Update. However, this alternative would not preclude implementation of some, if not all, of the CIP projects on an individual basis. In addition, this alternative would not meet any of the objectives of the 2015 WFMP Update.

CEQA Guidelines Section 15126.6(e)(2) also requires that an EIR identify another alternative as environmentally superior, besides the No Project Alternative. In this case, the next environmentally superior alternative would be the Reduced Footprint Alternative, which would reduce, but not eliminate, potential impacts to air quality, biological, and cultural resources. However, this alternative would not achieve all four of the stated objectives (Section 3.4.2 Project Description, and Section 6.1 Project Objectives) of the 2015 WFMP Update.

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Chapter 8 ACRONYMS AND ABBREVIATIONS

µg/m3	micrograms per cubic meter
°F	degrees Fahrenheit
AB 32	Assembly Bill
AFY	acre feet per year
AMSL	above mean sea level
AOI	Area of Influence
AP	Alquist-Priolo
APCD	Air Pollution Control District
AQIA	Air Quality Impact Analysis
ARB	California Air Resources Board
ARP	Accidental Release Prevention Program
ASTs	above-ground storage tanks
BMPs	Best Management Practices
BRT	Bus Rapid Transit
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal/OSHA	California Occupational Safety and Health Administration
CalFire	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CAS	Climate Change Adaptation Strategy
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CDMG	California Department of Conservation, Division of Mines and Geology
CDTSC	California Department of Toxic Substances Control
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFCs	chlorofluorocarbons
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CH_4	methane
CHP	California Highway Patrol
CIP	Capital Improvement Program or Project(s)
CNEL	Community Noise Equivalent Level
CO	Carbon monoxide
CO_2	carbon dioxide

CO_2e	CO2 equivalent
CPA	Community Planning Area
CRPR	California Rare Plant Rank
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibels
dBA	A-weighting decibels
DEH	County Department of Environmental Health
DNL/Ldn	24-hour period
DOT	U.S. Department of Transportation
DPM	Diesel particulate matter
EOP	Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
ERP	Emergency Response Plan
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FIRMs	Federal Insurance Rate Maps
FMMP	Farmland Mapping and Monitoring Program
Focus 2050	San Diego Foundation's Regional Focus 2050 Working Paper and Technical Assessment
FTA	Federal Transit Administration
GDP	General Development Plan
GHGs	greenhouse gases
GSAs	groundwater sustainability agencies
HazMat	Hazardous Materials
HCM	Highway Capacity Manual
HCPs	habitat conservation plans
HFCs	hydrofluorocarbons
HIRT	Health Hazardous Incident Response Team
HLP	Habitat Loss Permit
HMBP	Hazardous Materials Business Plan
Hz	Hertz
I-	Interstate
in/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Resources Plan
ITP	incidental take permit
ITS	incidental take statement
LAFCO	San Diego Local Area Formation Commission
Leq	Equivalent Energy Level
LOPS	Lower Otay Pump Station
MBTA	Migratory Bird Treaty Act
MCLs	Maximum Contaminant Levels
mg/L	milligrams per liter

ML	Managed Lanes
MMT	million metric tons
MPOs	Metropolitan Planning Organizations
MSCPs	Multiple Species Conservation Programs
MT	metric ton
MW	megawatts
MWD	Metropolitan Water District of Southern California
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NCCP	Natural Community Conservation Planning
NFIP	National Flood Insurance Program
NIMS	National Incident Management System
NO	nitrogen oxide
NO_2	Nitrogen dioxide
NOP	Notice of Preparation
NOx	nitrogen
NPDES	National Pollution Discharge Elimination System Permits
NPPA	Native Plant Protection Act
NSLU	Noise-sensitive land uses
NWR	San Diego National Wildlife Refuge
O_3	Ozone
OES	Office of Emergency Services
OMCPA	Otay Mesa Community Planning Area
OPR	California Office of Planning and Research
OSHA	Occupational Safety and Health Administration
OVRP	Otay Valley Regional Park
OWD	Otay Water District
OWTP	Otay Water Treatment Plant
pb	Lead
PDF	project design features
PEIR	Program Environmental Impact Report
PFCs	perfluorocarbons
PM_{10} and $PM_{2.5}$	Particulate matter
ppm	parts per million
PPV	peak particle velocity
RAQS	Regional Air Quality Strategy
RCRA	Resource Conservation and Recovery Act
REL	reference exposure level
RfDs	reference doses
RGF	Regional Growth Forecast
RMPP	Risk Management and Prevention Program
RMS	root mean square
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RWQCB	Regional Water Quality Control Board

SAMPs	Sub Area Master Plans
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCH	State Clearinghouse
SCP	standard construction practices
SCS	Sustainable Communities Strategies
SDAB	San Diego Air Basin
SDBP	San Diego Basin Plan
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas & Electric
SDWA	Safe Drinking Water Act
SEMS	Standardized Emergency Management System
SF_6	sulfur hexafluoride
SGMA	Sustainable Groundwater Management Act
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO_2	Sulfur dioxide
SPAs	Specific/Sectional Plan Areas
SPCC	Spill Prevention Control and Countermeasure Plan
SR	State Route
SSC	Species of Special Concern
STIP	Statewide Transportation Improvement Plan
SUSMP	Standard Urban Stormwater Mitigation Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic air contaminants
TDS	total dissolved solids
TMDL	total maximum daily load
TRB	Transportation Research Board
U.S.	United States
UBC	Uniform Building Code
UDC	Unified Disaster Council
USACE	U.S. Army Corps of Engineers
USC	U.S. States Code
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VMT	vehicle miles traveled
VOC	volatile organic compounds
WAS	Water Agencies Standards
WFMP	Water Facilities Master Plan
WPO	Watershed Protection, Stormwater Management, and Discharge Control Ordinance
WRMP	Water Resources Master Plan

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The following professional staff participated in the preparation of this PEIR.

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Chapter 10 **DISTRIBUTION**

California Air Resources Board

California Department of Conservation

California Department of Fish & Wildlife

California Department of Health Services

California Department of Parks & Recreation

California Department of Public Health

California Department of Toxic Substances Control

California Department Water Resources

California Office of Historic Preservation

California Resources Agency

Caltrans, District 11

City of Chula Vista

City of San Diego Water Department

City of San Diego Planning Department

Community Planning Group

County of San Diego, Department of Public Works

County of San Diego, Planning & Development Services

Crest-Dehesa-Granite Hills-Harbison Canyon

East Otay Mesa Property Owners Association

George F. Bailey Detention Facility

Governor's Office of Planning & Research

Hawano Corp NV

Helix Water District

Jamul Indian Village

Jamul-Dulzura Community Planning Group

Metropolitan Water District of Southern California

Native American Heritage Commission

Otay Mesa Chamber of Commerce

Otay Mesa Crossing LLC

Otay Mesa Planning Committee

Otay Mesa Property Owners Association

Padre Dam Municipal Water District

Regional Water Quality Control Board, San Diego Region

San Diego County Archeological Society, Inc.

San Diego Association of Governments

San Diego County Air Pollution Control District

San Diego County Water Authority

San Diego Gas and Electric

South County Economic Development Council

State Lands Commission

State Water Resources Control Board

Sweetwater Authority

Sycuan Band of the Kumeyaay Nation

US Army Corps of Engineers, San Diego Field Office

US Fish & Wildlife Service

Valle de Oro Community Planning Group

Chula Vista Public Library, Civic Center Branch

Chula Vista Public Library, Otay Ranch Branch

Chula Vista Public Library, South Chula Vista Branch

San Diego Public Library, Central

San Diego Public Library, Otay Mesa-Nestor Branch

San Diego Public Library, San Ysidro Branch

San Diego County Public Library, Crest Branch

San Diego County Public Library, La Mesa Branch Library

San Diego County Public Library, Rancho San Diego Branch

OTAY WATER DISTRICT

2015 Water Facilities Master Plan Update

Final Program Environmental Impact Report
CEQA Findings of Fact

SCH No. 2015061091

November 2016

Prepared for:

Otay Water District
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1.0 Introduction

Otay Water District (OWD) was authorized as a California Special District by the State Legislature in 1956, under the provisions of the Municipal Water District Law of 1911, and thereby gained its entitlement to imported water. As a member agency of the San Diego County Water Authority (SDCWA), OWD purchases all of the potable water that it delivers from the SDCWA. The SDCWA is responsible for transmission of the imported water supply within San Diego County to its member agencies, and is itself a member of the Metropolitan Water District of Southern California (MWD).

In 2002, OWD developed a comprehensive Water Resources Master Plan (WRMP) that combined all previously existing master plans and facility plans into one system wide plan outlining the Capital Improvement Program (CIP) projects required to serve their customers. In 2009, OWD updated the WRMP. The following three phases were identified in the 2009 WRMP Update: Phase I (2015-2016), Phase II (2017-2022), Phase IIIA (2023-2050), and Phase IIIB (2023-2050). Minor updates to the 2009 WRMP were completed in 2010 and 2013.

Since 2002, OWD has continued to improve its potable water facilities to meet the water demands associated with growth. OWD has also continued to improve and expand its recycled water facilities to serve irrigation demands and conserve potable water supplies. The CIP is updated annually to reflect system improvements and to identify future needs for budgeting purposes.

OWD has explored opportunities to expand its local resources as a means to offset the risk of interrupted imported water supplies. To address the uncertainties surrounding imported water supplies due to potential drought shortages or emergency seismic conditions, in addition to the rising costs of imported water, OWD has prepared an Integrated Resources Plan (IRP) to develop a flexible, long-term strategy for its future supply portfolio. The IRP defines a course for OWD's development of local water supply projects. To the extent the supply plans identified in the IRP affect the planning of OWD's potable and recycled water systems, they are incorporated into the Master Plan.

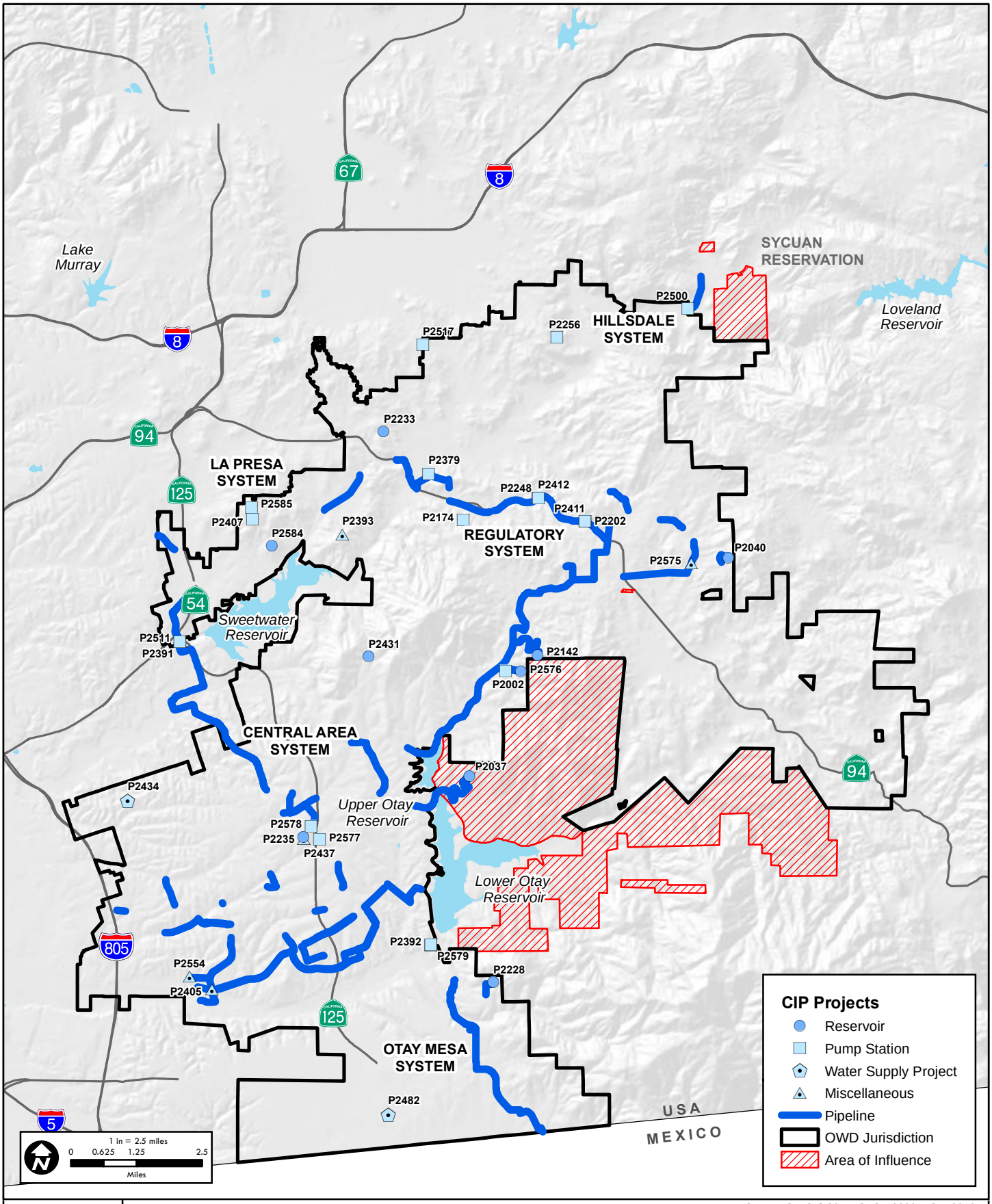
The purpose of the 2015 Water Facilities Master Plan (WFMP) Update is to revise the OWD 2009 WRMP; update planning criteria and OWD's hydraulic system models; map out water and recycled water facility improvements; update OWD's CIP projects; and identify adaptive responses to changed conditions.

2.0 Project Description

2.1 Planning Area

The OWD service area is regionally located within south central San Diego County, and is bounded by rural lands to the east, the Padre Dam Municipal Water District to the north, the Helix Water District to the northwest, the Sweetwater Authority and the city of San Diego to the west, and the U.S./Mexico International Border to the south. There are several major transportation routes through which access across the OWD service area is possible, including I-8, SR- 54, and SR-94 in the north; I-805 to the west; and SR-125 in the north and south.

The OWD service area consists of 80,320 acres (125.5 square miles), and provides water service to approximately 217,000 residents. The OWD boundaries encompass a large portion of eastern Chula Vista, a portion of the city of San Diego on Otay Mesa, and various unincorporated areas, including Rancho San Diego, Jamul, Spring Valley, Bonita, Otay Mesa, and areas adjacent to El Cajon and La Mesa. An additional 11 square miles on the OWD's eastern flank are designated by the San Diego Local Area Formation Commission (LAFCO) as being within the OWD's Area of Influence (AOI) (also known as Sphere of Influence, or SOI), but outside its current active service area.



Source: SanGIS 2014, CASIL 2009, ESRI 2016

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Figure 1

2015 WFMP Planning Area & CIP Projects

100038569 2015 OWD WFMP Update - EIR

10/28/2016 cava6246 H:\Clients\Otay WD\100038569 2015 OWD WMP Update\EIR\GIS\data\Figure 3-2 WFMP Planning Area CIP Projects Coversheet.mxd

The OWD water service area is divided into five distinct water service areas (Figure 3-2). The three northernmost service areas – Hillsdale, La Presa and Regulatory – are collectively referred to as the North District (Figure 3-2a through Figure 3-2c). The two southernmost service areas – Central and Otay Mesa – are collectively referred to as the South District (Figure 3-2d through Figure 3-2e). The North District serves San Diego County communities above Sweetwater Reservoir; and, the South District serves the Chula Vista and Otay Mesa.

In addition to water supply, OWD also provides sewage collection, treatment, and disposal services to users within a small portion of the North District. OWD provides sewer service only within the Jamacha drainage basin in the northern portion of its service area where it also operates a small water reclamation plant. Sewer service for the remainder of the area within OWD boundaries is provided by other public entities. OWD also maintains and operates a recycled water system in the South District, primarily within the eastern portion of Chula Vista, in OWD's Central service area.

2.2 Project Characteristics

The CIP projects identified in the 2015 WFMP Update can be classified into five general categories: storage, pump station, pipeline, water supply, and miscellaneous CIP projects. The following is an overview of definitions, issues, and construction information associated with each of these categories. Details for each category of projects are provided in Section 3.4.4, with the exception of miscellaneous CIP projects, which are described in Table 3-1.

Storage

Storage projects generally involve the construction and/or alteration of water-holding reservoirs. Typical reservoir sites consist of a storage tank (reservoir) constructed on a level, graded pad; underground water supply and delivery pipelines; fencing for security purposes; and an access road for maintenance purposes. Placement of storage projects is essential, because optimizing the elevation at which a storage project is located can greatly increase efficiency by reducing the amount of pumping (energy) needed to move water to and from the reservoir. In general, reservoir capacity is reported in units of millions of gallons (MG).

Pump Stations

Pump station projects involve the movement of water uphill, or to higher pressure zones, and pressure reducing valves are used when water is moving to lower pressure zones (downhill). Pump stations typically consist of buildings containing pumps, electric power-line connections, pipeline connections, fencing, and access roads. Pressure reducing valves are installed along pipelines. In general, pump capacity is reported in units of gallons per minute (gpm) or millions of gallons per day (MGD).

Pipeline

Pipeline projects involve trench excavation, preparing the bed for pipe placement, laying the pipe in the trench, filling the trench, and restoring the disturbed surface area. Where it is not feasible to install a pipeline within a street right-of-way, OWD makes every effort to use the shortest possible route between connection points to minimize ground-level impacts. In this practice, OWD considers factors such as engineering principles and site-specific constraints. The CIP pipeline projects identified in the 2015 WFMP Update include transmission and distribution lines. Transmission lines generally transport large quantities of water over broad areas. Distribution lines generally have lower capacities, and transport water to specific locations. For example, recycled water delivered from the City of San Diego South Bay Water Reclamation Plant travels through a transmission line to several reservoirs within the OWD service area.

From these reservoirs, distribution pipelines deliver the recycled water to the various communities. Pipeline size is generally reported in inches, which refers to the pipe's diameter.

Water Supply

Water supply projects involve a variety of project types, including pipelines, desalination facilities, and groundwater well production systems.

Miscellaneous CIP

Similar to the water supply projects described above, the miscellaneous CIP projects involve a variety of project types, including a disinfection facility, a groundwater well system, and an interconnection facility (see Table 1).

Table 1 Miscellaneous CIP Projects

Project No.	System	Project Description	Phase
P2405	Central	624/340 PRS, Heritage Road and Hard Rock Road	II
P2437	Central	Dis 624-4 Disinfection Facility	IIIA
P2517	Hillsdale	Helix - Otay Interconnection, Chase Avenue	IIIA
P2575	Regulatory	1485/1296 PRS – Presilla Drive and Jamul Highlands Road	IIIA

2.3 Description of Projects

The projects identified in the 2015 WFMP Update include many of the improvements that are contained in the approved 2009 WRMP Update.

A. Potable Water System

The potable water system improvements recommended in the 2015 WFMP Update would consist of several major pump stations, reservoirs and transmission mains to expand service throughout the district and resolve existing storage, pumping and water supply deficiencies (Table 2 through Table 5). Please note that any distribution pipelines and laterals connecting to the CIP transmission mains are considered "developer projects," and, therefore, would be the development project proponent's responsibility to plan, fund, and install. Such pipelines would typically be 12-inch and smaller in diameter and serve specific customers. As a result, some of the recommended CIP transmission main alignments identified in the 2015 WFMP Update may change as development plans are revised or refined in the future. As development projects are proposed, the developers will be required to prepare Sub-Area Master Plans. These plans define the distribution pipelines required to serve developer projects, and either confirm or revise the sizes and locations of the necessary regional CIP facilities identified in the 2015 WFMP Update.

Storage Projects

The CIP potable water storage projects shown on Figure 3-2a and listed in Table 2 are required in order to meet the Phase II, Phase IIIA and Phase IIIB storage needs of the OWD potable water system.

Pump Station Projects

The CIP potable water pump station projects shown on Figure 3-2a and listed in Table 3 are required in order to meet the Phase II, Phase IIIA and Phase IIIB pumping needs of the OWD potable water system.

Table 2 Potable Water Storage CIP Projects[1]

Project No.	System	Project Description	Capacity (MG)
Phase II (2017 - 2022)			
P2040	Regulatory	Res - 1655-1 Reservoir, 0.5 MG	0.5
		Total Phase II	**0.5**
Phase IIIA (2023 – 2050) – Projects Required Under Baseline Supply Assumptions			
P2584	La Presa	Res - 657-1 and 657-2 Reservoir Demolitions	--
P2037	Central	Res - 980-3 Reservoir, Resort Parcel, 4.0 MG (previously 13 MG)[1]	4
P2142	Regulatory	Res - 1296-4 Reservoir, Village 14, 2.0 MG	2
P2431	Central	Res - 980-4 Reservoir, 8.0 MG (previously 5 MG)[2]	8
P2576	Central	Res - 980-5 Reservoir, Village 14, 2.0 MG[3]	2
		Total Phase IIIA	**16.0**
Phase IIIB (2023 – 2050) – Projects Required without Assumed New Supply Source(s)			
P2228	Otay Mesa	Res - 870-2 Reservoir, 7.0 MG (previously 10 MG)	7
P2233	La Presa	Res - 640-3 Emergency Reservoir, 10.0 MG	10
P2235	Central	Res - 624-4 Emergency Reservoir, 30.0 MG (previously 40 MG)	30
		Total Phase IIIB	**47.0**
		Total Phases II & III	**63.5**

(1) Village 13 Resort Reservoir.
(2) This reservoir will replace Reservoir 980-1 and provide increased zone emergency storage.
(3) New Village 14 Reservoir at 980 elevation co located with 1296-2 PS

Table 3 Potable Water Pump Station CIP Projects[1]

Project No.	System	Project Description	Capacity (gpm)
Phase II (2017 - 2022)			
P2393	La Presa	PS - Pointe Hydro Pump Station Expansion, from 240 to 600 gpm	600
P2579	Central	PS - Temporary Lower Otay Pump Station Rehabilitation	-
P2174	Regulatory	PS-1090-1 Pump Station Replacement and Expansion - from 280 to 400 gpm	400
		Total Phase II	**1,000**
Phase IIIA (2023 - 2050) – Projects Required Under Baseline Supply Assumptions			
P2002	Regulatory	PS - 1296 -2 Proctor Valley Pump Station - 4,000 gpm	4,000
P2256	Hillsdale	PS - 978-2 Pump Station - 1,500 gpm	1,500
P2391	Central to La Presa	PS - Perdue WTP Pump Station, 10,000 gpm	10,000
P2577	Central	PS - 980-2 Pump Station Expansion - from 12,000 to 16,000 gpm	16,000
P2578	Central	PS - 711-2 (PS 711-1 replacement) - from 10,000 to 16,000 gpm[1]	16,000
P2585	La Presa	PS - 1200-2 Pump Station - 1,000 gpm	1,000
P2202	Regulatory	PS - 1296-1 Pump Station Expansion - from 2,900 to 6,000 gpm	6,000
P2248	Regulatory	PS - 944-1 Pump Station Expansion - 3,000 to 6,000 gpm	6,000
P2379	Regulatory	PS - 832-1 Pump Station Expansion - from 4,200 to 6,800 gpm	6,800
P2411	Regulatory	PL - 1296/944 PRS Upgrade 1296-1 Pump Station Site	--
P2412	Regulatory	PL - 944/832 PRS Upgrade 944-1 Pump Station Site	--
		Total Phase IIIA	**67,300**
Phase IIIB (2023 - 2050) – Projects Required without Assumed New Supply Source(s)			
P2392	Central	PS -Lower Otay PS Replacement and Expansion - from 12,500 to 18,000 gpm[2]	18,000
		Total Phase IIIB	**18,000**
		Total Phases II & III	**86,300**

(1) Includes new suction manifold to new pump station.
(2) Depending on new supply (Desalinated Water vs San Diego Pure Water) a new pump station is required to convey water from either City of San Diego WTP or from Rosarito Desalinated Water Conveyance Project.

Pipeline Projects

The CIP projects listed in Table 4 are required in order to meet the Phase II, Phase IIIA and Phase IIIB transmission pipeline needs of the OWD potable water system. For the CIP projects involving pipeline installation within existing roads, OWD has and will continue to coordinate with local jurisdictions to ensure the timing of this work is coincident with roadway improvements performed under a local agency public improvement or CIP project. For the CIP projects involving installation of new pipelines within newly constructed roads, OWD has and will continue to coordinate with the private developers responsible for new road construction to ensure concurrent timing of both projects. Since many of these CIP pipeline projects are assumed to be installed concurrently with existing road improvements by local agencies or new road construction by private developers, they would not require open cut and traffic control. In the event the timing of pipeline installation within existing roadways does not coincide with the local agency public road improvements, then open cut trenching and traffic control measures would be required.

Table 4 Potable Water Pipeline CIP Projects

Project No.	System	Project Description	Length (ft)
Phase II (2017 - 2022)			
P2400	Central	PL - 20-in Pipeline Replacement, 711 Zone, Otay Lakes Road at Santa Paula	3,800
P2403	Central	PL - 12-in, 624 Zone, Heritage Road - Olympic/Otay Valley	5,300
P2451(1)	Otay Mesa	Otay Mesa Desalination Conveyance and Disinfection System	22,000
P2516	La Presa	PL - 12-in, 640 Zone, Jamacha Road - Darby/Osage	2,500
P2553	Central	Heritage Road Bridge Replacement Utility Relocation	--
P2574	Hillsdale	PL - 12-Inch and 14-inch Pipeline Replacement, 803 and 978 Zone, Vista Grande, Pence Drive	6,900
P2595	Central	PL – 16-inch, 624 Zone, Village 3N – Heritage Road, Main St/Energy Way	1,200
		Total Phase II	**41,700**
Phase IIIA (2023 – 2050) – Projects Required Under Baseline Supply Assumptions			
P2104	Central	PL - 12-in, 711 Zone, La Media Road - Birch/Rock Mountain	1,800
P2106	Central	PL - 12-in, 711 Zone, La Media Road - Rock Mountain/Otay Valley	3,400
P2107	Central	PL - 16-in, 711 Zone, Rock Mtn Road-La Media Road (previously 12-in)	2,400
P2116	Central	PL - 16-in, 711 Zone, Rock Mtn Road - SR 125/EastLake Pkwy (previously 12-in)	3,000
P2135	Central	PL - 20-in, 980 Zone, Otay Lakes Road to Village 13	5,500
P2137	Central	PL - 20-in, 980 Zone, Village 13 to 980-3 Reservoir	3,500
P2138	Central	PL - 20-in, 980 Zone, 980-3 Reservoir Transmission PL	2,200
P2148	La Presa	PL - 16-in, 850 Zone, Jamacha Boulevard - Sweetwater Springs/Trace	5,200
P2150	Central	PL - 16-in, 458 Zone, East Palomar Street - Medical Center/Raven	900
P2156	Regulatory	PL - 12-in, 1485 Zone, Olive Vista Drive Parallel	2,500
P2190	Regulatory	PL - 12-in, 1485 Zone, Jamul Highlands	2,300
P2398	Central	PL - 20-in, 624 Zone, Paseo Ladera between Telegraph/Olympic Upsizing	2,800
P2402	Central	PL - 16-in, 624 Zone, La Media Road - Village 7/Otay Valley	2,500
P2404	Central	PL - 12-in, 624 Zone, Rock Mtn Road - Village 4/Otay Valley	3,600
P2500	Hillsdale	Padre Dam - Otay Interconnection, Dehesa Valley	3,900
P2511(1)	La Presa to/from Central	PL – Otay Interconnect (North District - South District Interconnection)	31,000
P2528	Central	PL – 30-inch, 624 Zone, Manifold between Res 624-1 & 624-2	8,000
P2554	Central	PL – 12-in. and 624/340 PRS at Energy Way and Nirvana Avenue	2,000
P2583	Central	PL - 20-in, 624 Zone, Otay Mesa Interconnect 711 PRS Bypass	5,800
P2589	Otay Mesa	PL - 24-in, 871 Zone, Donovan Prison	600
P2590	Central	PL - 20-in, 624 Zone, Village 7	6,400

Table 4 Potable Water Pipeline CIP Projects			
Project No.	**System**	**Project Description**	**Length (ft)**
P2033	Regulatory	PL - 16-in, 1296 Zone, Melody Road - Campo/Presilla	6,400
P2053	Regulatory	PL - 20-in, 944 Zone, Campo Road - 944-1 Pump Station/944 Reservoirs	5,800
P2056	Regulatory	PL - 12-in, 1296 Zone, Jamul Drive Replacement	3,000
P2058	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Road - Pioneer/Campo (previously 24-in)	8,000
P2122	Central	PL - 20-in, 711 Zone, OTC to Hunte Parkway	5,500
P2171	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Road - Pioneer/Melody (previously 30-in)	2,200
P2181	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Road - Proctor Valley PS/Millar Ranch (previously 30-in)	10,500
P2188	Regulatory	PL - 24-in, 832 Zone, Campo Road - Steele Canyon/944-1 Pump Station	3,400
P2197	Regulatory	PL - 24-in, 832 Zone, 832-1 Pump Station to 832 Reservoirs	1,800
P2198	Regulatory	PL - 24-in, 832 Zone, 832 Reservoirs to Fair Oaks Drive	5,100
P2203	Regulatory	PL - 20-in, 1296 Zone, Proctor Valley Road - Melody (previously 30-in)	5,000
P2204	Regulatory	PL - 20-in, 1296 Zone, Pioneer Way - Proctor Valley/1296 Reservoirs (previously 24-in)	3,100
P2407	La Presa	Dictionary Hill Fireflow Capacity pipeline Improvements	--
P2430	Central	PL - 20-in in Proctor Valley Road	8,500
P2435	Central	PL - 20-in, 980 Zone, Proctor Valley Road to Proctor Valley PS	6,500
P2580	Central	PL - 12-in, 980 Zone, Bob Pletcher Pkwy 125 Freeway Crossing	1,000
P2581	Central	PL - 16-in, 624 Zone, Santa Victoria Road - Olympic/Heritage	3,600
P2582	Central	PL - 20-in, 711 Zone, Eastlake Pkwy between Olympic and Birch Upsizing	2,500
P2586	Regulatory	PL - 24-in, 832 Zone, Campo Road - Florence Terrace / Steele Canyon	1,500
P2587	Regulatory	PL - 16-in, 1296 Zone, Jefferson Road - Campo/Lyons Valley	1,900
P2588	Regulatory	PL - 12-in, 1296 Zone, Jamul Highlands Road to Presilla Drive	1,100
P2591	Regulatory	PL - 16-in, 1296 Zone, Proctor Valley to 1296-4 Reservoir	9,500
P2596	Central	PL - 16-inch, 624 Zone, Village 3N – Main St, Heritage Rd/Wolf Canyon	3,200
P2597	Central	PL - 16-inch, 624 Zone, Main St, Wolf Canyon Bridge	1,500
P2598	Central	PL - 16-inch, 624 Zone, Village 8W – Main St, La Media/Village 4	1,000
P2599	Central	PL - 16-inch, 624 Zone, Village 8W – Otay Valley Rd, School/Village 8E	900
P2600	Central	PL - 16-inch, 624 Zone, Village 8E	2,100
P2602	Central	PL - 16-inch, 624 Zone, Otay Valley Rd, SR 125 Bridge	500
P2603	Central	PL - 16-inch, 711 Zone, Hunte Parkway, SR 125 Bridge	600
		Total Phase IIIA	**205,000**
Phase IIIB (2023 – 2050) – Projects Required without Assumed New Supply Source(s)			
P2195	Regulatory	PL - 24-in, 640 Zone, Campo Road - Regulatory Site/Millar Ranch	4,100
P2196	Regulatory	PL - 24-in, 640 Zone, Millar Ranch Road to 832-1 Pump Station	2,200
P2374	Otay Mesa	PL - 30-in, 870 Zone, 870-2 Reservoir to 870-1 Reservoir	400
		Total Phase IIIB	**6,700**
		Total Phases II & III	**253,400**

(1) CEQA environmental review has been completed.

B. Recycled Water System

The recycled water system improvements recommended in the 2015 WFMP Update would consist of several major pump stations, reservoirs and transmission mains to expand service throughout OWD and resolve existing storage and pumping deficiencies. As with the potable water system, any distribution pipelines and laterals connecting to the CIP recycled water transmission mains would be the development project proponent's responsibility to plan, fund, and install. Some of the recommended CIP transmission

main alignments identified in the 2015 WFMP Update may change as development plans are revised or refined in the future; however, it is assumed for purposes of analysis in this PEIR that they would be installed within planned roadways.

Storage, Pipeline, and Pumping Projects

The CIP projects listed in Table 5 are required in order to meet the Phase II and Phase IIIA storage and pumping needs of the OWD recycled water system.

Table 5 Recycled Water CIP Projects

Project No.	System	Project Description	Length (ft)
Phase I (Present - 2026)			
R2125	Central	RecPRS - 927/680 PRS Improvements, Otay Lakes Road (Automation/SCADA)	
R2084	Central	RecPL - 20-in, 680 Zone, Village 2 - Heritage/La Media	2,000
R2028	Central	RecPL - 8-in, 680 Zone, Heritage Road to Main Street	6,300
R2047	Central	RecPL - 12-in, 680 Zone, La Media Road - Birch/Rock Mountain	1,300
R2127	Central	RecPL - 8-in, 815/680 Zones, Main Street – La Media/Magdalena – 815/680 PRS	1,700
		Total Phase I	**11,300**
Phase IIA (2027 - Ultimate)			
R2129	Central	RecPS - 680-1 PS Upgrade, Engine-Driven Pump Addition	-
R2130	Central	RecPS - 944-1 PS Upgrade, Engine-Driven Pump Addition	-
		Total Phase IIA	**-**
Phase IIB (2027 - Ultimate)			
R2080	Central	RecPL - 24-in, 680 Zone, Olympic Parkway between Brandywine/Santa Victoria	3,800
R2082	Central	RecPL - 24-in, 680 Zone, Santa Victoria - Olympic Parkway/Heritage	3,500
R2083	Central	RecPL - 20-in, 680 Zone Olympic Parkway - Heritage Road	110
R2085	Central	RecPL - 20-in, 680 Zone, La Media - State/Olympic	2,500
R2128	Central	RecPL - 16-in, 944 Zone, Hunte Pwy/Proctor Valley Rd – North of Otay Lakes Road	7,300
		Total Phase IIB	**17,210**
Phase IIC (2027 - Ultimate)			
R2037	Central	RecPL - 8-in, 680 Zone, La Media Road - Rock Mountain/Hunte Parkway	4,400
R2038	Central	RecPL - 8-in, 680 Zone, Village 3N – Main St, Heritage Rd/Wolf Canyon	3,300
R2042	Central	RecPL - 8-in, 815 Zone, Hunte Parkway - SR-125/Eastlake	2,700
R2043	Central	RecPL - 8-in, 815 Zone, Rock Mountain Road - Olympian HS/SR 125	1,000
R2079	Central	RecPL - 6-in, 450 Zone, Otay Valley Road, Entertainment, 680/450 PRS	3,000
R2126	Central	RecPL - 8-in, 680 Zone, Main Street – Wolf Canyon Bridge	1,500
R2131	Central	Res - 680-2 Storage Reservoir (2.0 MG) (At Sunset View Park)	-
R2132	Central	RecPL - 8-inch, 680 Zone, Main Street – Village 4	3,600
R2133	Central	RecPL - 8-inch, 680 Zone, Otay Valley Road – Village 8E	2,100
R2134	Central	RecPL - 8-inch, 680 Zone, Otay Valley Road – Village 9	4,000
R2135	Central	RecPL - 8-inch, 680 Zone, University/Village 10	4,200
R2136	Central	RecPL - 8-inch, 680 Zone, Otay Valley Road, SR 125 Bridge	500
R2137	Central	RecPL - 8-in, 815 Zone, Hunte parkway, SR 125 Bridge	600
		Total Phase IIC	**30,900**
		Total Phase II	**48,110**
		Total Phases I & II	**59,410**

2.4 Project Purpose, Goals and Objectives

The purpose of the 2015 WFMP is to revise the OWD 2009 WRMP; update planning criteria and OWD's hydraulic system models; map out water and recycled water facility improvements; update OWD's CIP; and identify adaptive responses to changed conditions.

The WFMP's forecast is based on the latest regional growth forecasts developed by the San Diego Association of Governments (SANDAG), and is consistent with the adopted land use plans of all jurisdictions within the district boundaries. OWD coordinates with these jurisdictions through its development of Urban Water Management Plans, and through other ongoing coordination to ensure land use plans account for the availability of water supplies and water service infrastructure. Consistent with the LAFCO AOI designation, the 2015 WFMP Update accounts for projected development within the AOI to the extent consistent with adopted land use plans and to the extent these lands are expected to annex into the OWD boundary. These areas include the Otay Ranch Villages 13 and 14, and the San Ysidro Mountain Ranch/Planning Area 17 area. The AOI also includes the Sycuan Indian Reservation, located to the northeast of the OWD service boundary, but these lands are not included in the demand forecast.

The primary goals and objectives for the 2015 WFMP Update include the following actions:

- **Update Planning Criteria and the District's Hydraulic System Models**: Review and update, as necessary, the District's system performance criteria, and update the District's InfoWater system hydraulic models to account for new development and to maintain integration with the District's GIS system.
- **Map Out Water and Recycled Water Facility Improvements:** Identify and prioritize the District's facility needs, including transmission, storage, and pumping facilities, to serve projected future conditions.
- **Update OWD CIP:** Update the District's near-term (2020) and long-term (2050) CIP, based on a new demand forecast, new supply options and identified facility needs.
- **Identify Adaptive Responses to Changed Conditions:** Identify how needed facility improvements and CIP items would change should future demand and supply conditions vary from baseline assumptions.

2.5 Permits, Approvals, and Regulatory Requirements

Numerous federal, state and local regulations and permit requirements would be applicable to the implementation of the 2015 WFMP (Table 6). OWD, or its contractors, would be required to comply with all applicable requirements, unless by exception of Government Code Section 53091. Because zoning ordinances do not apply to the location or construction of facilities used for the production, generation, storage or transmission of water, this PEIR will address only those specific objectives, policies and standards from the planning agencies of communities potentially affected by the future CIP projects that support the implementation of water storage and transmission facilities.

Table 6 Potential Permits and Approvals

Agency/Department	Permit/Approval	Action Associated With or Required For
Federal Agencies		
U.S. Fish and Wildlife Service (USFWS)	Biological Assessment, Section 7 Consultation, Biological Opinion (Endangered Species Act [ESA] 16 U.S.C. 1531-1544)	Activity where there may be an effect on federally listed endangered/ threatened/ proposed species (applies to projects with federal involvement).
U.S. Army Corps of Engineers (USACE)	Individual/Nationwide Section 404 Permit (CWA, 33 USC 1341)	Discharge of dredge/fill into Waters of the U.S., including wetlands.
	Section 10, Rivers and Harbors Act Permit	Activities, including the placement of structures, affecting navigable waters.
Advisory Council on Historic Preservation	Section 106 Consultation, National Historic Preservation Act (NHPA)	Opportunity to comment if project may affect cultural resources listed or eligible for listing on National Register of Historic Places (NRHP).
U.S. Department of Transportation (USDOT), Federal Highway Administration (FHA)	Encroachment Permits	Consider issuance of permit for transmission line crossing of federally funded highways.
U.S. Department of the Treasury, Bureau of Alcohol, Tobacco and Firearms	Explosive User's Permit	Consider issuance of permit to purchase, store and use explosives for site preparation.
State Agencies		
State Water Resources Control Board (SWRCB), Regional Water Quality Control Board (RWQCB)	General Construction Activity Stormwater Permit	Stormwater discharges associated with construction activity.
	Waste Discharge Requirements (Water Code 13000 *et seq.*)	Discharge of waste that might affect groundwater or surface water (nonpoint-source) quality.
	401 Certification (CWA, 33 USC 1341. If the project requires USACE 404 Permit)	Discharge into waters and wetlands (see USACE Section 404 Permit).
	Permit to Operate a Public Water System	Any person who plans to operate a public water system must obtain permit.
California State Lands Commission	Right-of-Way Permit (Land Use Lease)	Consider issuance of a grant of right-of-way across state land.
California Department of Fish and Wildlife (CDFW)	California ESA	Activity where a listed candidate, threatened, or endangered species under California ESA may be present in the project area and a state agency is acting as lead agency for CEQA compliance. Consider issuance of a Section 2081 incidental take permit for state-only listed species and a Section 2081.1 consistency determination for effects on species that are both federally and state listed.
	California Native Plant Protection Act	Review of mitigation agreement and mitigation plan for plants listed as rare.
	Lake/Streambed Alteration Agreement (California Fish and Game Code Section 1601)	Change in natural state of river, stream or lake (includes road or land construction across a natural streambed).
California Department of Transportation (Caltrans)	Encroachment Permit	Consider issuance of permits to cross state highways.
California Coastal Commission (CCC)	Coastal Development Permit	Development within the Coastal Zone.

Table 6 Potential Permits and Approvals

Agency/Department	Permit/Approval	Action Associated With or Required For
California State Historic Preservation Office (SHPO)	Section 106 Consultation, NHPA	Consult with Bureau of Land Management (BLM), project applicant, appropriate land management agencies, and others regarding activities potentially affecting cultural resources.
Local Agencies		
County of San Diego Department of Environmental Health (DEH)	Hazardous Materials Business Plan	Hazardous material exceeding federal threshold quantities.
	Hazardous Materials Inventory	Hazardous materials exceeding county threshold quantities.
County of San Diego Department of Public Works	Encroachment Permit	Installation of pipelines in, under, or over any portion of county road rights-of-way.
San Diego County, Sheriff's Department	Explosives Permit	Consider issuance of a license to store flammable explosives.
San Diego Air Pollution Control District (SDAPCD)	Authority to Construct	Emissions from a stationary source.
	Permit to Operate	Equipment emitting pollutants from a stationary source.
San Diego County Water Authority (SDCWA)	Joint Use Permit	Installation of pipelines in areas where SDCWA has prior rights.

2.6 Project Background

The Otay Water District (OWD) was authorized as a California Special District by the State Legislature in 1956, under the provisions of the Municipal Water District Law of 1911, and thereby gained its entitlement to imported water. As a member agency of the San Diego County Water Authority (SDCWA), OWD purchases all of the potable water that it delivers from the SDCWA. The SDCWA is responsible for transmission of the imported water supply within San Diego County to its member agencies, and is itself a member of the Metropolitan Water District of Southern California (MWD).

In 2002, OWD developed a comprehensive Water Resources Master Plan (WRMP) that combined all previously existing master plans and facility plans into one system wide plan outlining the Capital Improvement Program (CIP) projects required to serve their customers. In 2009, OWD updated the WRMP. The following three phases were identified in the 2009 WRMP Update: Phase I (2015-2016), Phase II (2017-2022), Phase IIIA (2023-2050), and Phase IIIB (2023-2050). Minor updates to the 2009 WRMP were completed in 2010 and 2013.

Since 2002, OWD has continued to improve its potable water facilities to meet the water demands associated with growth. OWD has also continued to improve and expand its recycled water facilities to serve irrigation demands and conserve potable water supplies. The CIP is updated annually to reflect system improvements and to identify future needs for budgeting purposes.

OWD has explored opportunities to expand its local resources as a means to offset the risk of interrupted imported water supplies. To address the uncertainties surrounding imported water supplies due to potential drought shortages or emergency seismic conditions, in addition to the rising costs of imported water, OWD has prepared an Integrated Resources Plan (IRP) to develop a flexible, long-term strategy for its future supply portfolio. The IRP defines a course for OWD's development of local water supply projects. To the extent the supply plans identified in the IRP affect the planning of OWD's potable and recycled water systems, they are incorporated into the Master Plan.

The purpose of the 2015 Water Facilities Master Plan (WFMP) Update is to revise the OWD 2009 WRMP; update planning criteria and OWD's hydraulic system models; map out water and recycled water facility improvements; update OWD's CIP projects; and identify adaptive responses to changed conditions.

3.0 Record of Proceedings

For purposes of CEQA and these Findings, the Record of Proceedings for the 2015 WFMP Update consists of the following documents, at a minimum:

- The NOP and all other public notices issued by OWD in conjunction with the 2015 WFMP Update PEIR;
- The Draft PEIR and Final PEIR, including appendices;
- All comments submitted by agencies, organizations, or members of the public during the 45-day public comment period on the Draft PEIR;
- The project design features, standard construction practices, and mitigation/performance measures incorporated into the CIP projects to avoid significant environmental impacts;
- All findings and resolutions adopted by OWD decision makers in connection with the 2015 WFMP Update PEIR, and all documents cited or referred therein;
- All final reports, studies, memoranda, maps, or other documents relating to the 2015 WFMP Update PEIR prepared by PBS&J, consultants to OWD;
- Minutes and/or verbatim transcripts of all information sessions, public meetings, and public hearings held by OWD, in connection with the 2015 WFMP Update PEIR;
- Any documentary or other evidence submitted to OWD at such information sessions, public meetings, and public hearings;
- Matters of common knowledge to OWD including, but not limited to, federal, state, and local laws and regulations;
- Any documents expressly cited in these Findings, in addition to those cited above; and
- Any other materials required for the Record of Proceedings by PRC §21167.6(e).

The custodian of the documents comprising the Record of Proceedings is OWD, whose office is located at 2554 Sweetwater Springs Boulevard, Spring Valley, California 91978-2004.

OWD has relied on all of the documents listed above in reaching its decision on the 2015 WFMP Update PEIR, even if every document was not formally presented to the OWD decision makers as part of the OWD files generated in connection with the 2015 WFMP Update PEIR. Without exception, any document set forth above that is not found in the OWD files falls into one of two categories: (1) many of the documents reflect prior planning or legislative decisions with which OWD was aware in approving the 2015 WFMP Update PEIR (see *City of Santa Cruz v. Local Agency Formation Commission* (1978) 76 Cal.App.3d 381, 391-392; *Dominey v. Department of Personnel Administration* (1988) 205 Cal.App.3d 729, 738, fn. 6); (2) other documents influenced the expert advice provided to OWD staff or consultants, who then provided advice to the OWD decision makers. Therefore, such documents form part of the underlying factual basis for OWD's decision relating to approval of the 2015 WFMP Update and certification of the Final PEIR (see PRC §21167.6(e)(10); *Browning-Ferris Industries v. City Council of City of San Jose* (1986) 181 Cal.App.3d 852, 866; *Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 153, 155).

4.0 Findings Required Under CEQA

PRC §21002 provides that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available that would *substantially lessen* the significant environmental effects of such projects[...]" (emphasis added). The same statute states that the procedures required by CEQA "are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures that will *avoid* or *substantially lessen* such significant effects" (emphasis added). Section 21002 goes on to state that "in the event [that] specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects."

The mandate and principles announced in PRC §21002 are implemented, in part, through the requirement that agencies must adopt findings before approving projects for which EIRs are required (see PRC §21081(a); State CEQA Guidelines §15091(a)). For each significant environmental effect identified in an EIR for a proposed project, the approving agency must issue a written finding reaching one or more of three permissible conclusions. The first such finding is that "[c]hanges or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR" (State CEQA Guidelines §15091(a)(1)). The second permissible finding is that "[s]uch changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency" (State CEQA Guidelines §15091(a)(2)). The third potential conclusion is that "[s]pecific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR" (State CEQA Guidelines §15091(a)(3)). PRC §21061.1 defines "feasible" to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors." State CEQA Guidelines §15364 adds another factor: "legal" considerations (see also *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 565).

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 (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417). "[F]easibility" under CEQA encompasses "desirability" to the extent that desirability is based on a reasonable balancing of the relevant economic, environmental, social, and technological factors" (*Ibid.*; see also *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715).

The State CEQA Guidelines do not define the difference between "avoiding" a significant environmental effect and merely "substantially lessening" such an effect. OWD must, therefore, glean the meaning of these terms from the other contexts in which the terms are used. PRC §21081, on which State CEQA Guidelines §15091 is based, uses the term "mitigate" rather than "substantially lessen." The State CEQA Guidelines therefore equate "mitigating" with "substantially lessening." Such an understanding of the statutory term is consistent with the policies underlying CEQA, which include the policy that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available that would substantially lessen the significant environmental effects of such projects" (PRC §21002).

For purposes of these Findings, the term "avoid" refers to the effectiveness of one or more mitigation measures to reduce an otherwise significant effect to a less than significant level. In contrast, the term "substantially lessen" refers to the effectiveness of such measure or measures to substantially reduce the

severity of a significant effect, but not to reduce that effect to a less than significant level. These interpretations appear to be mandated by the holding in *Laurel Hills Homeowners Association v. City Council* (1978) 83 Cal.App.3d 515, 519-527, in which the Court of Appeal held that an agency had satisfied its obligation to substantially lessen or avoid significant effects by adopting numerous mitigation measures, not all of which rendered the significant impacts in question less than significant.

Although State CEQA Guidelines §15091 requires only that approving agencies specify that a particular significant effect is "avoid[ed] *or* substantially lessen[ed]," these Findings, for purposes of clarity, in each case will specify whether the effect in question has been reduced to a less than significant level or has simply been substantially lessened but remains significant. Moreover, although Section 15091, read literally, does not require findings to address environmental effects that an EIR identifies as merely "potentially significant," these Findings will nevertheless fully account for all such effects identified in the Final PEIR.

In short, 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. Certain project modifications or the adoption of certain mitigation measures or alternatives are not required, however, where such actions are infeasible or where the responsibility for implementation lies with some other agency (State CEQA Guidelines §15091(a), (b)).

State CEQA Guidelines §15126.2(b) requires the identification of significant impacts that would not be avoided, even with the implementation of feasible mitigation measures or a feasible environmentally superior alternative. With respect to a project for which significant impacts are not avoided or substantially lessened, either through the adoption of feasible mitigation measures or a feasible environmentally superior alternative, a public agency, after adopting proper findings, may nevertheless approve the project if the agency first adopts a statement of overriding considerations setting forth the specific reasons why the agency found that the project's "benefits" rendered "acceptable" the "unavoidable adverse environmental effects" (State CEQA Guidelines §§15093, 15043(b); see also PRC §21081(b)). According to the evaluation within the 2015 WFMP Update PEIR, all potential environmental effects would be reduced to less than significant levels with implementation of identified project design features (PDFs), standard construction practices (SCPs) and feasible mitigation/performance measures, and no significant unavoidable environmental impacts would remain. Therefore, a statement of overriding considerations is not required for the 2015 WFMP Update PEIR. Please note that the final determination of significance of impacts and of the feasibility of mitigation/performance measures will be made by the OWD Board of Directors as part of their certification of the Final PEIR.

5.0 Legal Effects of Findings

To the extent that these Findings conclude that various project design features, standard construction practices and mitigation/performance measures outlined in the Final PEIR are feasible and have not been modified, superseded, or withdrawn, OWD hereby binds itself to implement these measures. These Findings, in other words, are not merely informational, but rather constitute a binding set of obligations that will come into effect when OWD formally approves the 2015 WFMP Update and certifies the Final PEIR.

The project design features, standard construction practices and mitigation/performance measures are included in the Mitigation Monitoring and Reporting Program (MMRP) adopted concurrently with these Findings, and will be effectuated through the process of implementing the 2015 WFMP Update (refer to Section 8.0 of these Findings).

6.0 Mitigation Monitoring and Reporting Program

A MMRP has been prepared for the 2015 WFMP Update PEIR, and has been adopted concurrently with these Findings (see PRC §21081.6(a)(1)), that includes the project design features, standard construction practices and mitigation/performance measures incorporated into the 2015 WFMP Update CIP projects to avoid or substantially lessen significant environmental effects, as outlined in the Final PEIR. OWD will use the MMRP, which is a separate, stand-alone document, to track compliance with the adopted project design features, standard construction practices and mitigation/performance measures. The MMRP will remain available for public review during the compliance period.

7.0 Significant Effects and Mitigation Measures

7.1 Air Quality

A. Standards of Significance

Thresholds used to evaluate impacts to air quality are based on applicable criteria in the State CEQA Guidelines (CCR §§15000-15387), Appendix G. A significant impact would occur if the CIP projects proposed under the 2015 WFMP Update would:

1. Result in a conflict with or obstruct implementation of the San Diego County RAQS, applicable portions of the SIP, and/or any local air quality plans.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation including pollutant emissions for which the region is in federal or state nonattainment.

B. Impacts

Threshold 1: Would implementation of the 2015 WFMP Update expose sensitive receptors to substantial pollutant concentrations?

The 2009 RAQS was developed based on growth assumptions, land use, and other information from SANDAG. Growth assumptions made within the 2015 WFMP Update to determine appropriate future service requirements were also derived from SANDAG growth assumptions and land use information. As such, the 2015 WFMP Update would be consistent with the applicable SDAPCD air quality management plan and the California SIP, as these documents utilized the same growth assumptions. Implementation of the 2015 WFMP Update would not conflict with or obstruct implementation of an applicable air quality plan.

Threshold 2: Would implementation of the 2015 WFMP Update create objectionable odors affecting a substantial number of people?

Threshold 2: Construction of CIP projects proposed under the 2015 WFMP Update would result in temporary increases in air pollutant emissions. These emissions would be generated in the form of fugitive dust emissions (PM_{10} and $PM_{2.5}$) and ozone precursor emissions (NO_X, VOC). Therefore, implementation of the 2015 WFMP Update could potentially contribute to the existing regional violation of state and federal air pollutant standards, resulting in a significant impact, and mitigation/performance measures are required (see below). Operational sources of air pollutants from the constructed CIP projects would be negligible. Therefore, implementation of the 2015 WFMP Update would not violate any air quality standard or contribute substantially to an existing or projected air quality violation with regards to stationary or mobile sources.

C. Findings

The OWD Board of Directors finds that implementation of the 2015 WFMP Update would not

- conflict with or obstruct implementation of the applicable air quality plans (2009 RAQS and California SIP);
- expose sensitive receptors to substantial pollutant concentrations; and
- create objectionable odors affecting a substantial number of people.

Therefore, no mitigation/performance measures are required.

Pursuant to State CEQA Guidelines §15091(a)(1), changes or alterations have been required in, or incorporated into, the CIP projects proposed under the 2015 WFMP Update which avoid or substantially lessen the potential for

- violations of any air quality standard or substantial contributions to an existing or projected air quality violation;
- conflicts with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases; and
- cumulatively considerable net increases of any criteria pollutant for which the SDAB is non-attainment under the NAAQS and CAAQS, including releasing emissions which exceed quantitative thresholds for O_3 precursors (see Section 5.5 of the PEIR for cumulative impact discussion).

D. Explanation

Threshold 1: Would implementation of the 2015 WFMP Update expose sensitive receptors to substantial pollutant concentrations?

The most current air quality planning document for the SDAPCD, and thus the applicable air quality management plan for the 2015 WFMP Update, is the 2009 RAQS which was prepared by the SDAPCD as part of the California SIP to demonstrate how the SDAB would either maintain or strive to attain the NAAQS. Being that the SDAB is classified as a nonattainment area for the NAAQS and CAAQS for O_3, $PM_{2.5}$ and PM_{10}, the RAQS outlines specific actions (emission control measures) that the SDAPCD will take towards achieving attainment of these pollutants. The California SIP, which was prepared by the California Air Resources Board (CARB) to demonstrate how the entire state of California will maintain or attain the NAAQS and CAAQS, is also applicable to the WRMP planning area. These documents were developed based on growth assumptions, land use, and other information from SANDAG. Growth assumptions made within the 2015 WFMP Update to determine appropriate future service requirements were also derived from SANDAG growth assumptions and land use information. Therefore, the 2015 WFMP Update would be consistent with the applicable air quality management plans (2009 RAQS and California SIP), as these documents utilized the same growth assumptions.

Threshold 2: Would implementation of the 2015 WFMP Update create objectionable odors affecting a substantial number of people?

Implementation of the 2015 WFMP Update would include, but not be limited to, the following SCPs to reduce potential impacts associated with violation of air quality standards:

Air-SCP-1 Prior to construction of CIP projects, the following measures shall be taken to reduce fugitive dust emissions ($PM_{2.5}$, and PM_{10}). Measures shall be implemented during construction, including but not limited to, the following actions:

i. During grading and site preparation activities, exposed soil areas shall be watered as necessary (at least twice per day) to prevent dust emissions. During windy days or when fugitive dust can be observed leaving construction sites, additional applications of water shall be required. Under windy conditions where wind velocities are forecast to exceed 25 miles per hour, all ground disturbing activities shall be halted until the winds are forecast to be less than 25 miles per hour.

ii. Where visible soil material is carried onto adjacent public paved roads, the paved roads shall be swept or washed down at the end of the day to avoid vehicles from pulverizing the dirt into fine particles.

iii. Trucks transporting materials to and from the site shall allow for at least two feet of freeboard (i.e., minimum vertical distance between the top of the load and the top of the trailer). Alternatively, trucks transporting materials shall be covered.

Air-SCP-2 Prior to construction of CIP projects, the following measures shall be taken to reduce potential emissions of ozone precursors (NO_X and VOCs) associated with construction equipment. Measures shall be implemented during construction, including but not limited to the following action:

i. All construction equipment utilized for the construction of proposed CIP projects shall be maintained, tuned, and operated in accordance with all relevant SDAPCD, ARB, and EPA standards.

Construction Emissions

Construction of CIP projects proposed under the 2015 WFMP Update would result in temporary increases in air pollutant emissions. These emissions would be generated in the form of fugitive dust emissions (PM_{10} and $PM_{2.5}$) and ozone precursor emissions (NO_X, VOC). Operation of heavy equipment and vehicles during the construction phases would generate exhaust emissions from fuel combustion. Fugitive dust emissions would be generated from earth disturbance during site grading and building demolition, as well as from construction vehicles operating on open fields or dirt roadways within or adjacent to CIP project construction sites.

Equipment that would be associated with construction of the proposed CIP projects includes dozers, rollers, dewatering pumps, backhoes, loaders, delivery and haul trucks. At this time, many of the CIP projects under the 2015 WFMP Update are still in the design phase and, as such, information regarding the number and type of construction equipment required and the duration of construction activities is still unknown. Therefore, it is unknown whether or not construction emissions for the CIP projects (either individually or collectively) would exceed the screening thresholds established by the SDAPCD.

The SDAB is currently designated as a nonattainment area for the state standard for PM_{10}, $PM_{2.5}$, 1-hour and 8-hour ozone, and the federal 8-hour standard for ozone. Implementation of Air-SCP-1 would require that construction of all proposed CIP projects adhere to standard construction practices for controlling fugitive dust emissions. In addition, all equipment utilized for construction of the proposed CIP projects would be required to implement Air-SCP-2. This standard construction practice requires that all construction vehicles meet the requirements of the relevant air quality agencies, the SDAPCD, ARB, and the EPA with regards to tuning, maintenance, and operation of the vehicles. Although incorporation of these standard construction practices would reduce potential pollutant emissions, compliance with the standard construction practices does not ensure that emissions from combined construction activity would be less than the applicable SDAPCD screening levels.

Implementation of the 2015 WFMP Update could potentially contribute to the existing regional violation of state and federal air pollutant standards, resulting in a significant impact.

Operational Emissions

Operational impacts associated with the 2015 WFMP Update would be incremental emissions of air pollutants resulting from two emission source categories: stationary and mobile sources. The following describes these emissions associated with the 2015 WFMP Update.

Stationary Sources. Stationary sources of air pollutant emissions associated with the CIP projects include fuel combustion emissions from diesel-powered emergency generators. Criteria air pollutants from these sources include carbon monoxide, NO_X, SO_X, VOC, PM_{10}, and $PM_{2.5}$. Of the proposed CIP projects, the only projects that may require such equipment would be pump stations. Pipeline projects, storage projects, and groundwater wells, once constructed, would not require the use of emergency generators or any other type of fuel-consuming operating equipment. None of the CIP projects would require space heating or landscape equipment. The 2015 WFMP Update proposes construction of twelve new pump stations: two within Phase II, six within Phase IIIA, and four within Phase IIIB. Diesel fuel for the generators would only be consumed when the equipment is tested, approximately once per month, or in the event of an emergency. Due to the minimal use of diesel fuel required for operation of the pump stations, stationary sources of air pollutant emissions would be negligible.

Mobile Sources. Mobile sources of air pollutant emissions for the CIP projects would be primarily associated with vehicular trips by employees. However, operation of CIP projects proposed under the 2015 WFMP Update would not generate a significant volume of new vehicle trips. The maintenance for most of the CIP projects would require approximately one visit per day. Due to the minimal number of vehicular trips associated with maintenance of the CIP projects, mobile sources of air pollutant emissions would be negligible. Therefore, implementation of the 2015 WFMP Update would not violate any air quality standard or contribute substantially to an existing or projected air quality violation with regards to mobile sources.

E. Mitigation/Performance Measures

Implementation of mitigation measure Air-1 would reduce potential impacts associated with violations of air quality standards with regards to construction emissions to a less than significant level.

Air-1 An air quality technical study shall be prepared for each CIP once the project reaches the design stage to determine whether potential air pollutant emissions associated with construction activities are less than the screening thresholds established by the SDAPCD. The air quality technical study shall include an air pollutant emissions inventory for the CIP under design, as well as emissions for all other designed CIPs that would undertake construction within the same timeframe. All recommendations and measures identified in the air quality technical study to ensure that air pollutant emissions remain within established thresholds shall be incorporated by the Otay Water District prior to any groundbreaking activities associated with the project.

F. Residual Impacts after Mitigation

No residual impacts would remain after implementation of the PDFs, SCPs, and mitigation/ performance measures listed above.

7.2 Biological Resources

A. Standards of Significance

Thresholds used to evaluate impacts to biological resources are based on applicable criteria in the State CEQA Guidelines (CCR §§15000-15387), Appendix G. A significant impact would occur if the CIP projects proposed under the 2015 WFMP Update would:

1. Either directly or through habitat modifications, on any sensitive or special-status species or sensitive habitats identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS.
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

B. Impacts

Threshold 1 – Sensitive Species and Habitats

Implementation of the 2015 WFMP Update would result in significant direct and indirect impacts to sensitive plant and animal species and sensitive habitats; therefore, mitigation/performance measures are required (see Threshold 1 explanation below).

Threshold 2 - Riparian Habitat and Other Sensitive Natural Communities

Implementation of some of the CIPs located in the OWD planning area would have the potential to result in significant direct and indirect impacts to riparian habitat and other sensitive natural communities. The biological resources mitigation measures outlined below would reduce those impacts to less than significant levels.

Threshold 3 – Federally Protected Wetlands

Implementation of portions of the 2015 WFMP Update would have the potential to result in direct and indirect impacts to federally protected wetlands. The biological resources mitigation measures outlined below would reduce direct and indirect impacts to federally protected wetlands to less than significant levels.

Threshold 4 – Wildlife Movement Corridors and Nursery Sites

Implementation of the 2015 WFMP Update would have the potential to temporarily impact wildlife movement corridors. The biological resources mitigation measures outlined below would reduce direct and indirect impacts to wildlife movement corridors to less than significant levels.

C. Findings

The OWD Board of Directors finds that implementation of the 2015 WFMP Update would not

- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident migratory wildlife corridors; or
- substantially conflict with any local policies or ordinances protecting biological resources.

Therefore, no mitigation/performance measures are required.

Pursuant to State CEQA Guidelines §15091(a)(1), changes or alterations have been required in, or incorporated into, the CIP projects proposed under the 2015 WFMP Update which avoid or substantially lessen the potential for:

- substantial adverse effects, either directly or through habitat modifications, on any sensitive or special-status species or sensitive habitats; and
- cumulatively considerable contributions to significant cumulative biological resources impacts considering past, present, and probable future projects (see Section 5.5 of the PEIR for cumulative impact discussion).

D. Explanation

Threshold 1 – Sensitive Species and Habitats

Direct Impacts

Direct impacts include the direct destruction or displacement of biological resources from clearing, grubbing, grading, and other initial land disturbance activities. Implementation of the 2015 WFMP Update would have the potential to result in direct impacts to special-status plant and wildlife species and/or sensitive habitats.

Reservoir/Storage Projects. Construction of CIP potable water storage projects located within sensitive habitats could result in direct impacts to sensitive biological resources from temporary and permanent vegetation removal. Potable water storage CIP projects, and sensitive habitats potentially impacted by construction of the projects, are listed in Table 4.2-6 of the PEIR. Coastal sage scrub, chaparral, and grassland habitat are likely to be directly impacted from the implementation of the proposed water storage CIPs. Disturbed or developed areas are not considered sensitive habitats.

Pump Station Projects. Construction of CIP pump stations located within sensitive habitats could result in direct impacts to sensitive biological resources from temporary and permanent vegetation removal. Pump station CIP projects, and sensitive habitats potentially impacted by construction of the projects, are listed in Table 4.2-7 of the PEIR. Coastal sage scrub, chaparral, riparian, and grassland habitat are likely to be directly impacted from the implementation of the proposed pump station CIPs. Disturbed or developed areas are not considered sensitive habitats.

Pipeline Projects. Construction of CIP pipeline projects located within sensitive habitats could result in direct impacts to sensitive biological resources from temporary and permanent vegetation removal. Pipeline CIP projects, and sensitive habitats potentially impacted by construction of the projects, are listed in Table 4.2-8 of the PEIR. Coastal sage scrub, chaparral, riparian, wetland, and grassland habitat are likely to be directly impacted from the implementation of the proposed pipeline CIPs. Disturbed or developed areas are not considered sensitive habitats.

Miscellaneous CIP. Similar to the water supply projects described above, the miscellaneous CIP projects involve a variety of project types, including installation of an air and vacuum ventilation system, demolition of an existing reservoir and pump station, meter and vault installations, pipeline crossings, and distribution pipelines, as listed in Table 4.2-9 of the PEIR. Construction of miscellaneous CIP projects located within sensitive habitats could result in direct impacts to sensitive biological resources from temporary and permanent vegetation removal. Miscellaneous CIP projects, and sensitive habitats potentially impacted by construction of the projects, are listed in Table 4.2-6 of the PEIR. Coastal sage scrub and chaparral are likely to be directly impacted from the implementation of the proposed miscellaneous CIPs. Disturbed or developed areas are not considered sensitive habitats.

Indirect Impacts

Potential indirect impacts to sensitive species and habitats from construction of CIPs under the 2015 WFMP Update could include impaired water quality, fugitive dust, noise, night lighting, staging areas, and establishment and spread of invasive non-native plant species from graded areas. Potential indirect impacts to sensitive species and habitats from long-term operations at above-ground CIP facilities (i.e., storage reservoirs/tanks and pump stations) under the 2015 WFMP Update could include impaired water quality, noise from pumps, security night lighting, and establishment and spread of invasive non-native plant species from graded areas. Potential impacts from impaired water quality (e.g., erosion/ sedimentation from graded areas, storm water runoff pollution from oil leaks during construction and from paved areas post-construction, etc.) would be reduced to less than significant levels through compliance with the NPDES program and Hazardous Materials Business Plan (HMBP) requirements (refer to Geo-SCP-3 in Section 7.5 and Hyd-SCP-1 in Section 7.5 Hydrology below). Temporary, construction-related impacts from fugitive dust impacts would be reduced to less than significant levels through implementation of dust control Best Management Practices (BMPs) during construction (refer to Air-SCP-1 in Section 7.1 above). Potential impacts due to establishment and spread of invasive non-native plant species from graded areas into adjacent native vegetation communities would be reduced to less than significant levels through implementation of the measures listed in Bio-SCP-1 above. The remaining indirect impacts related to CIP construction activities and from long-term operations at CIP storage reservoirs/tanks and pump stations are discussed below.

Noise. CIP construction activities would result in temporary increases in noise levels that could disturb sensitive breeding birds and raptors that use adjacent native habitats for nesting and foraging.

For CIP pump stations located adjacent to native vegetation communities that could be used by sensitive breeding birds and raptors, potential impacts due to permanent increases in noise levels from operation of pumps would be reduced to less than significant levels through implementation of Noi-PDF-1 (Section 7.10 below), which requires the placement of pumps, emergency generators, and any other motorized equipment within a masonry enclosure.

Night Lighting. Night lighting used during nighttime construction of CIPs may alter nocturnal behavior patterns of wildlife that use adjacent native habitats for nesting and foraging. Night lighting could also give nocturnal predators an unnatural advantage over prey species, which could cause an increased loss of native wildlife.

For above-ground CIP facilities (i.e., storage reservoirs/tanks and pump stations) under the 2015 WFMP Update that would be located adjacent to native vegetation communities, potential impacts could occur to nocturnal wildlife from increased predation due to “spill-over” of nighttime light levels into the adjacent habitats from outdoor (security) lighting installed at these facilities. These potential impacts would be reduced to less than significant levels through implementation of Ene-PDF-2 (discussed below in Section

7.4), which requires such lighting to be of low illumination (i.e., light emitting diodes with motion-sensor lighting controls), shielded, and directed downwards and away from these areas.

Other Construction-Related Impacts

Fueling and maintenance of equipment in construction staging areas could lead to accidental leaks or spills resulting in storm water runoff contamination due to elevated concentrations of hydrocarbons that could enter downstream drainages and wetlands. As stated above, such temporary, construction-related impacts from decreased water quality would be reduced to less than significant levels through compliance with the NPDES program and HMBP requirements (refer to Geo-SCP-3 in Section 7.5 and Hyd-SCP-1 in Section 7.7 below). CIP construction activities could result in inadvertent intrusions of construction equipment and personnel into sensitive habitats adjacent to construction zones.

Threshold 2 - Riparian Habitat and Other Sensitive Natural Communities

The proposed project would result in a potentially significant impact to sensitive habitats in the planning area from direct and indirect impacts associated with the 2015 WFMP implementation. Therefore, the following section focuses solely on riparian habitats. Riparian communities occur along rivers, streams, and other drainages in the unincorporated county. According to the Riparian Bird Conservation Plan, riparian habitats are defined as habitats along the banks or otherwise adjacent to freshwater bodies, watercourses, estuaries, and other surface waters. These areas can be perennial, intermittent, or ephemeral. Riparian areas connect terrestrial and aquatic habitats and provide linkages between water bodies and upstream vegetation communities. The available water provides soil moisture in excess of that typically available in upland habitats.

Implementation of some of the CIPs located in the OWD planning area (refer to Tables 4.2-6, 4.2-7, and 4.2-8 and Figures 4.2-1a – f of the PEIR) would have the potential to result in directs and indirect impacts to riparian habitat and other sensitive natural communities (refer to Section 4.2.3.1 of the PEIR).

Threshold 3 – Federally Protected Wetlands

Federally protected wetlands are defined in Section 404 of the CWA as areas that are inundated or saturated by surface or ground water 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.

Implementation of some of the CIPs located in the OWD planning area (refer to Tables 4.2-7 and 4.2-8 and Appendix B: Figure B-1 of the PEIR) would have the potential to result in directs and indirect impact to federally protected wetlands. These projects would comply with applicable federal regulations such as Section 401 and 404 of the CWA.

Threshold 4 – Wildlife Movement Corridors and Nursery Sites

Implementation of some of the CIPs located in the OWD planning area (refer to Tables 4.2-7 and 4.2-8 and Figure 4.2-3 of the PEIR) would have the potential to temporarily impact wildlife movement corridors. Some of the CIPs are within the San Diego National Wildlife Refuge.

E. Mitigation/Performance Measures

Implementation of the following measures would reduce direct and indirect impacts to sensitive species and habitats to less than significant levels. These are considered both mitigation and performance measures since the same measures are required for both the near-term and long-term projects.

Bio-1A During the design phase, OWD shall retain a qualified biologist to conduct biological surveys as part of the "tiered" CEQA documentation for these projects, following the program described in Section 1.2 (Intended Use and Purpose) of this PEIR.

Bio-1B If the biological surveys identified in performance measure Bio-1A determine the presence of special-status species and/or sensitive or critical habitats on or adjacent to the CIP site, then OWD shall map and quantify the impacts in a Biological Technical Report as part of the "tiered" CEQA documentation referenced in Bio-1A. Detailed project-specific avoidance and mitigation measures for significant impacts to biological resources shall be negotiated between OWD and the regulatory agencies, as part of the approval and certification process for the subsequent CEQA documentation. In addition, the following measures shall be implemented, as applicable:

i. Six (6) weeks prior to vegetation clearing, grading and/or construction activities that are scheduled to occur between February 15 and August 30, a qualified biologist shall commence focused surveys in accordance with USFWS protocols to determine the presence or absence of the California gnatcatcher. Documentation of the survey results shall be provided to OWD and USFWS within 45 days of completing the final survey, as required pursuant to FESA Section 10(a)(1)(A). If the survey results are negative, then no further mitigation for California gnatcatcher is necessary and vegetation clearing can occur at any time in the year following the survey; only mitigation for the habitat loss shall be required (refer to Bio-1B(iv) below). If surveyed habitat is determined to be occupied by California gnatcatcher, then the following measures shall be implemented:

   a. Coastal sage scrub/gnatcatcher habitat shall not be removed during the gnatcatcher breeding season (February 15 through August 30). Work that has commenced prior to the breeding season shall be allowed to continue without interruption. If gnatcatchers move into an area within 500 feet of ongoing construction noise levels and attempt to nest, then it can be deduced that the noise is not great enough to discourage gnatcatcher nesting activities. If work begins prior to the breeding season, the contractor(s) should maintain continuous construction activities adjacent to coastal sage scrub that falls within 500 feet, until the work is completed. However, if clearing, grading and/or construction activities are scheduled to begin *during* the gnatcatcher breeding season, then updated pre-construction surveys are necessary as defined above. In addition, if these activities are initiated prior to, and extend into, the breeding season, but they cease for any period of time and the contractor wishes to restart work within the breeding season window, then updated pre-construction surveys are also necessary. If these surveys indicate no nesting birds occur within the coastal sage scrub that falls within 500 feet of the proposed work, then the adjacent construction activities shall be allowed to commence. However, if the birds are observed nesting within these areas, then the adjacent construction activities shall be postponed until all nesting has ceased.

   b. Noise monitoring shall be conducted if construction activities are scheduled during the gnatcatcher breeding season; if the construction-related noise levels would exceed 60 dB L_{eq} (i.e., the noise threshold suggested by the USFWS for indirect impacts to gnatcatcher); and if gnatcatchers are found within 500 feet of the noise source. Noise monitoring shall be conducted by a biologist experienced in both the vocalization and appearance of California gnatcatcher, and in the use of noise meters. Construction activities that generate noise levels over 60 dB L_{eq} may be permitted

within 300 feet of occupied habitat if methods are employed that reduce the noise levels to below 60 dB L_{eq} at the boundary of occupied habitat (e.g., temporary noise attenuation barriers or use of alternative equipment). During construction activities, daily testing of noise levels shall be conducted by a noise monitor with the help of the biologist to ensure that a noise level of 60 dB L_{eq} at the boundary of occupied habitat is not exceeded. Documentation of the noise monitoring results shall be provided to OWD and USFWS within 45 days of completing the final noise monitoring event.

ii. Ten (10) days prior to vegetation clearing, grading and/or construction activities that are scheduled to occur between February 1 and August 15, surveys for nesting bird species other than the California gnatcatcher, including those protected by the MBTA, shall be conducted by a qualified biologist following applicable USFWS and/or CDFW guidelines. If no active avian nests are identified within the disturbance limits, then no further mitigation is necessary. However, if active nests for avian species of concern are found within the disturbance limits, then species-specific measures prescribed by the MBTA shall be implemented by a qualified biologist. Documentation of the mitigation measures shall be provided to OWD and USFWS within 10 days after implementation.

iii. Ten (10) days prior to vegetation clearing, grading and/or construction activities that are scheduled to occur during the raptor nesting season (generally January 15 through July 31), and where suitable trees (such as *Eucalyptus* spp.) for raptor nesting occur within 500 feet of such activities, pre-construction surveys for raptor nests shall be performed by a qualified biologist. If no occupied raptor nests are identified in suitable trees on or within 500 feet of the construction site, then no further mitigation is necessary. Construction activities within 500 feet of occupied nests shall not be allowed during the raptor breeding season until a qualified biologist determines that the nests are no longer active. Documentation of the raptor surveys and any follow-up monitoring, as necessary, shall be provided to OWD and USFWS within 10 days of completing the final survey or monitoring event.

iv. For CIPs that would affect non-listed sensitive species and sensitive vegetation communities, the measures listed below shall be implemented prior to vegetation clearing, grading and/or construction activities. In addition, applicable regulatory agency permits and/or authorizations shall be obtained for CIPs that would affect federal and state-listed species, and the conditions of such permits and/or authorizations shall be implemented prior to vegetation clearing, grading and/or construction activities.

    a. Special-status species (and any corresponding USFWS-designated critical habitats), sensitive vegetation communities and MSCP resources shall be avoided through project design or site selection, to the extent practicable.

    b. For unavoidable impacts to special-status species (and any corresponding USFWS-designated critical habitats), sensitive vegetation communities and MSCP resources, off-site mitigation shall be provided by one, or a combination of, the following measures, in consultation with the USFWS and CDFW: 1) Debit credits from the San Miguel HMA (Table 4.2-10 shows the status of the mitigation bank credits, as of the date of this Final PEIR); 2) Contribute to the preserve system of other agency MSCPs through land acquisition or purchase of mitigation banking credits; and 3) Enhance, restore, create, and preserve in perpetuity off-site habitat areas at locations and mitigation ratios to be approved by the appropriate regulatory agencies and in compliance with the mitigation ratios, guidelines, and standards required by the

applicable MSCP subarea plans. Typical mitigation ratios for direct impacts to sensitive vegetation types include 2:1 for coastal sage scrub; 3:1 for maritime succulent scrub; 3:1 for native grassland; 2:1 for oak woodlands; 3:1 for southern interior cypress forest; 3:1 for riparian woodlands/forests; 3:1 for coastal freshwater marsh; 2:1 for riparian scrubs (absent threatened or endangered species); 5:1 for San Diego mesa claypan vernal pools; 3:1 for Gabbroic chaparrals; and 0.5:1 for non-native grassland (absent threatened or endangered species). These ratios will be decreased or increased depending on whether the impacts and mitigation would occur inside or outside an MSCP preserve area. For example, these ratios are typically doubled if impacts occur within previously conserved lands. Plans for habitat enhancement, restoration and creation shall be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Such plans shall include, at a minimum: (a) location of the mitigation site(s); (b) plant species to be used, container sizes, and seeding rates; (c) schematic depicting the mitigation area(s); (d) planting schedule; (e) description of the irrigation methodology; (f) measures to control exotic vegetation at the mitigation site(s); (g) specific success criteria (e.g., percent cover of native and non-native species, species richness); (h) detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and preserving the mitigation site(s) in perpetuity (including conservation easements and management funding). In addition, OWD shall negotiate and implement long-term maintenance requirements to ensure the success of the mitigation site(s).

c. If federal permits or funding are required for CIPs (and listed species) that occur within USFWS-designated critical habitat, then Section 7 Consultations with the USFWS shall be initiated by the appropriate federal permitting agency.

Bio-1C Prior to vegetation clearing, grading, and/or construction activities for CIPs that have the potential to impact sensitive vegetation communities or special-status species (and any corresponding USFWS-designated critical habitats), a qualified biologist shall attend a pre-construction meeting to inform construction crews of the sensitive species and habitats within and/or adjacent to these project sites.

Bio-1D Prior to vegetation clearing, grading, and/or construction activities, a qualified biologist shall oversee installation of appropriate temporary fencing and/or flagging to delineate the limits of construction and the approved construction staging areas for protection of identified sensitive resources outside the approved construction/staging zones: All construction access and circulation shall be limited to designated construction/staging zones. The fencing shall be checked weekly to ensure that fenced construction limits are not exceeded. This fencing shall be removed upon completion of construction activities. Construction staging areas shall be located a minimum of 100 feet from drainages, wetlands and areas supporting sensitive habitats or species. Fueling of equipment shall occur in designated fueling zones within the construction staging areas. All equipment used within the approved construction limits shall be maintained to minimize and control fluid and grease leaks. Provisions to contain and clean up unintentional fuel, oil, fluid and grease leaks/spills shall be in place prior to construction.

Bio-1E During vegetation clearing, grading, and/or construction, a qualified biologist shall monitor these activities: If sensitive species and/or habitats adjacent to these project sites are inadvertently impacted by these activities, then the biologist shall immediately inform the on-

site construction supervisor who shall temporarily halt or redirect work away from the area of impact. OWD shall immediately be notified of the impact and shall consult with the appropriate regulatory agencies to determine the required mitigation, according to Bio-1B(iv)(b) and (c) above. The biologist shall also ensure that all construction night lighting adjacent to sensitive habitat areas is of low illumination, shielded, and directed downwards and away from these areas.

Bio-1F Construction equipment will be checked by the biological monitor prior to use each morning to ensure no sensitive wildlife species sheltered in or around any equipment left on site overnight.

Bio-1G Trenches associated with pipe installation will be backfilled with earth at the end of each work day to prevent wildlife access, with the exception of the end of the open pipe, which will be left exposed. During installation, the area surrounding the end segment of exposed open pipe will be sloped at the end of each work day at an angle to allow wildlife to easily escape. Also, the open end of the exposed pipe will be covered at the end of each work day with a material flush with the open pipe entrance such as a wooden board or cap such that no wildlife, including smaller species like lizards, can enter the pipe. Should wildlife become trapped in the vicinity of the open exposed pipe, the qualified biologist(s) will remove and relocate the individual outside the construction zone.

F. Residual Impacts after Mitigation

No residual impacts would remain after implementation of the PDFs, SCPs, and mitigation/ performance measures listed above.

7.3 Cultural Resources

A. Standards of Significance

Thresholds used to evaluate potential impacts on cultural resources are based on applicable criteria in the State CEQA Guidelines (CCR §§15000-15387), Appendix G; and Section 106 of the NHPA. A significant impact on cultural (historical and/or archaeological) resources would occur if the CIP projects proposed under the 2015 WFMP Update would:

1. Cause a substantial adverse change in the significance of an historical resource as defined in State CEQA Guidelines §15064.5. Under these provisions, a Lead Agency shall find that a historical resource is significant if it meets one or more of the criteria for listing on the California Register of Historic Resources (CRHR), which extends to any building, structure, feature, or site that:

    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 to local, California, or national history;

    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 the prehistory or history of the local area, California, or the nation.

With few exceptions, for a structure or building to qualify as a historical resource it must be at least 45 years old and retain physical integrity relevant to its period of significance.

2. Cause a substantial adverse change in the significance of an archaeological resource as defined in State CEQA Guidelines §15064.5. Archaeological resources include resources that the Lead Agency determines meet at least one of the criteria listed in PRC §21082.2(g).

3. Disturb any human remains, including those interred outside of formal cemeteries. Section 15064.5(d) and (e) of the State CEQA Guidelines assigns special importance to human remains and specifies certain procedures when Native American remains are discovered. These procedures are detailed under PRC §5097.98.

B. Impacts

Threshold 1: Cause a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines §15064.5

Implementation of a historical building assessment (Cul-PDF-1) prior to demolition of PS 657-1 and PS 657-2, and a subsequent documentation/treatment program (Cul-PDF-2) as necessary, would reduce impacts to potential historical resources to less than significant levels.

Threshold 2: Cause a substantial adverse change in the significance of an archaeological resource as defined in State CEQA Guidelines §15064.5

Ground disturbance associated with construction of certain CIP projects proposed under the 2015 WFMP Update has the potential to impact potentially significant unknown archaeological resources; therefore, mitigation/performance measures are required (see below).

Threshold 3: Disturb any human remains, including those interred outside of formal cemeteries

Native American or other human remains could be encountered during ground disturbance associated with construction of certain CIP projects proposed under the 2015 WFMP Update; however, compliance with the California Health and Safety Code (Cul-SCP-1) would reduce impacts associated with discovery of human remains to less than significant levels.

C. Findings

Pursuant to State CEQA Guidelines §15091(a)(1), changes or alterations have been required in, or incorporated into, the CIP projects proposed under the 2015 WFMP Update which avoid or substantially lessen the potential for:

- substantial adverse change in the significance of an historical resource as defined in State CEQA Guidelines §15064.5;
- substantial adverse change in the significance of an archaeological resource as defined in State CEQA Guidelines §15064.5;
- disturbance of any human remains, including those interred outside of formal cemeteries; and
- cumulatively considerable contributions to significant cumulative cultural resources impacts considering past, present, and probable future projects (see Section 5.5 of the PEIR for cumulative impact discussion).

D. Explanation

Threshold 1: Cause a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines §15064.5

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following PDFs to reduce potential impacts to potential historical resources:

Cul-PDF-1 Approximately six months prior to demolition of P2584 (Reservoirs 657-1 and 657-2), OWD will retain a qualified architectural historian to conduct a historical building assessment. The architectural historian will record, on a California Department of Parks and Recreation (DPR) 523 form, or equivalent documentation, the potential historical resources, if any, that would be affected by this CIP project. The forms will be filed with the SCIC to receive Primary numbers and Trinomials. Should the analysis involved in completing the DPR 523 form indicate that a particular structure does not meet the eligibility criteria for listing on the California Register of Historic Places, then no further research and documentation is necessary (a 6-week to 2-month process). If, however, the structure is determined to be a historical resource, then measure Cul-PDF-2 will be implemented. OWD will provide a copy of the historical building assessment and DPR 523 form to the San Diego County Archaeological Society (SDCAS).

Cul-PDF-2 For each structure determined to be a historical resource according to measure Cul-PDF-1, the architectural historian will oversee the following documentation and treatment program:

i. Prior to alteration, remodeling, renovation, relocation, and/or demolition of the historical resource, the architectural historian will document the structure, and associated landscaping and setting, via still and video photography (to be provided on a CD-ROM) and will prepare a written record in accordance with the standards of the Historic American Building Survey (HABS) or Historic American Engineering Record (HAER), including accurate scaled mapping, architectural descriptions, and scaled architectural plans (if available). The record will be accompanied by a report containing site-specific history and appropriate contextual information. This information will be gathered through site-specific and comparative archival research, and oral history collection as appropriate.

ii. For historical resources that will be demolished, additional mitigation beyond HABS/HAER documentation may be necessary. The extent of mitigation will depend upon the importance of the historical resources to be demolished and will be determined in consultation with the State Office of Historic Preservation. Mitigation may include, but not be limited to, the preparation/dissemination of an informational brochure, interpretive displays about the history of the area, and website development and links to other historical buildings.

iii. Within three months after completion of documentation and treatment of the affected historical resources, a copy of the photographic and written record and HABS/HAER report will be submitted to SCIC.

The buildings that would be demolished under the 2015 WFMP Update would include two reservoirs on one site P2584 (Reservoirs 657-1 and 657-2), a chlorine disinfection facility on the site of P2228 (Res 870-2). The chlorine disinfection facility was built in 1993 at the time of construction of Res 870-1, and therefore would not qualify as an historical resource. PS 657-1 and PS 657-2 are both more than 45 years

of age, being built in 1957 and 1959, respectively. As these buildings are of the age to potentially be considered historical resources, an assessment would be conducted by a qualified architectural historian prior to their demolition and if they are determined to be potentially historic, then HABS/HAER documentation and additional mitigation measures would be implemented, as necessary. Therefore, implementation of Cul-PDF-1 and Cul-PDF-2 would reduce any impacts to potential historical resources associated with the demolition of P2584 (Reservoirs 657-1 and 657-2) under the 2015 WFMP Update to a less than significant level.

Threshold 2: Cause a substantial adverse change in the significance of an archaeological resource as defined in State CEQA Guidelines §15064.5

For the CIP pipeline projects, impacts to potential archaeological resources would only occur for those projects that would involve excavation into native soils below the level of roadway fill materials. Some pipeline projects may only require excavation into roadway fill material which would not disturb potential archaeological resources; however, the depth of fill along the CIP pipeline routes is unknown at this time. In the absence of such data, it must be assumed that grading and excavation activities associated with all of the CIP pipeline projects could have significant impacts to potential archaeological resources.

With the exception of P2233 (Res 640-3) ground-disturbing activities (e.g., grading, trenching, excavation) and equipment/material staging areas associated with the construction of CIP reservoirs under the 2015 WFMP Update would have the potential to damage or destroy archaeological resources that may be present on or below the ground surface, particularly in areas that have not been previously developed. According to a previous cultural resources investigation (Kyle Consulting 2004), as part of a Mitigated Negative Declaration (MND) for the facilities (HDR 2006) located on the 10-acre parcel in which Res 640-3 would be located, no cultural resources were identified by the literature review or record search. As such, no further research regarding cultural resources at this site was recommended in the referenced MND. Additionally, only ground-disturbing activities associated with the following CIP projects in reservoirs, pump stations, and groundwater wells could have significant impacts to potential archaeological resources: P2040 (Res-1655-1), P2393 (pump station), P2579 (pump station), P2174 (pump station 1090-1), P2400 (pipeline), P2403 (pipeline), P2405 (pipeline), P2451 (desalination conveyance and disinfection system), P2516 (pipeline), P2553 (replacement and utility relocation), R2129 (recycled water pipeline and engine driven pump addition), R2130 (recycled water pipeline and pump station addition), R2080 (recycled water pipeline), R2082 (recycled water pipeline), R2083 (recycled water pipeline), R2085 (recycled water pipeline), R2128 (recycled water pipeline), R2037 (recycled water pipeline), R2038 (recycled water pipeline), R2042 (recycled water pipeline), R2043 (recycled water pipeline), R2079 (recycled water pipeline), R2126 (recycled water pipeline), R2131 (reservoir 680-2), R2132 (recycled water pipeline), R2133 (recycled water pipeline), R2134 (recycled water pipeline), R2135 (recycled water pipeline), R2136 (recycled water pipeline), and R2137 (recycled water pipeline).

Threshold 3: Disturb any human remains, including those interred outside of formal cemeteries

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCP to reduce potential impacts to human remains:

Cul-SCP-1 The OWD will implement the provisions of California Health and Safety Code Section 7050.5 and PRC Section 5097.98 which establish procedures to be followed if Native American or other skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures.

Although unlikely, Native American human remains could be discovered during ground disturbance (e.g., grading, trenching, excavation) associated with construction of CIP projects under the 2015 WFMP Update, with the exception of P2233 (Res 640-3). If human remains are encountered, then these finds would be addressed in accordance with California Health and Safety Code Section 7050.5 and PRC Section 5097.98 which require the County Coroner be notified immediately to determine the origin and disposition of the remains. If the human remains are determined to be prehistoric, the Coroner would notify the NAHC and MLD who would complete the inspection within 48 hours and confer with OWD over reasonable options for treatment. Therefore, implementation of Cul-SCP-1 would reduce potential impacts to Native American human remains encountered during ground disturbance associated with construction of certain CIP projects under the 2015 WFMP Update to a less than significant level.

E. Mitigation/Performance Measures

In addition to Cul-PDF-1 and Cul-PDF-2 reducing impacts to historical resources, implementation of the following measures would reduce impacts to potential archaeological resources to a less than significant level. These are considered both mitigation and performance measures since the same measures are required for both the near-term and long-term projects.

Cul-2A Prior to initiation of any CIP project work, a review of records search data, a search of the Native American Heritage Commission's Sacred Lands Files, and an appropriate-level field survey shall be conducted by a qualified archaeologist to determine if any unrecorded archaeological sites are present. If archaeological resources are found, if feasible, the preferred course of action is that that archaeological resources be preserved in-situ. When avoidance of impacts is not possible, site evaluations and possible data recovery mitigation, as needed, shall be required for all resources. Any artifacts recovered during excavation, other than cultural material subject to repatriation, shall be curated with its associated records at a curation facility approved by OWD and a qualified archaeologist. Excavation of deposits shall be coordinated with and monitored by local Native American representatives. The results of the field survey shall be presented in an Archaeological Resources Management – formatted report and a copy of the report with all associated Department of Parks and Recreation site recordation forms be submitted to the South Coastal Information Center within one month of report finalization.

Cul-2B During the design phase, available data shall be reviewed by a qualified archaeologist on the depth of fill below existing roads in which pipelines would be installed. If such review indicates that native soils would not be disturbed by pipeline trenching activities, then cultural resources monitoring will not be required for those CIP projects, and this determination by a qualified archaeologist shall be documented by OWD in accordance with CEQA requirements. OWD will provide a copy of this CEQA documentation to the SDCAS. If it is determined that native soils would be disturbed by project activities, then a cultural resources monitoring program shall be implemented in accordance with measures Cul-2C through Cul-2D.

Cul-2C Prior to grading of CIP projects, OWD shall retain a qualified archaeologist to monitor all ground-disturbing activities in coordination with a Native American monitor (as applicable). Prior to beginning any work that requires cultural resources monitoring:

i. A preconstruction meeting shall be held that includes the archaeologist, construction supervisor and/or grading contractor, and other appropriate personnel to go over the cultural resources monitoring program.

ii. The archaeologist shall (at that meeting or subsequently) submit to the OWD a copy of the site/grading plan that identifies areas to be monitored.

iii. The archaeologist shall coordinate with the construction supervisor and OWD on the construction schedule to identify when and where monitoring is to begin, including the start date for monitoring.

iv. The archaeologist shall be present during grading/excavation and shall document such activity on a standardized form. A record of monitoring activity shall be submitted to OWD each month and at the end of monitoring.

Cul-2D In the event archaeological resources are discovered during ground-disturbing activities, the on-site construction supervisor shall be notified and shall redirect work away from the location of the discovery to allow for preliminary evaluation of potentially significant archaeological resources. The OWD shall consult with the archaeologist to consider means of avoiding or reducing ground disturbance within the archaeological site boundaries, including minor modifications of project footprints, placement of protective fill, establishment of a preservation easement, or other means. If development cannot avoid ground disturbance within the archaeological site boundaries, then OWD shall implement the measures listed below. The construction supervisor shall be notified by the archaeologist when the discovered resources have been collected and removed from the site, at which time the construction supervisor shall direct work to continue in the location of the discovery.

i. Prepare a research design, resource evaluation plan and, if necessary, an archaeological data recovery plan that will capture those categories of data for which the site is significant. The significance of the discovered resources shall be determined in consultation with the Native American representative, as appropriate. All archaeological work shall be conducted in the presence of a Native American monitor.

ii. If, in the opinion of the qualified archaeologist and in light of the data available, the significance of the site is such that data recovery cannot capture the values that qualify the site for inclusion in the CRHR, then OWD shall reconsider project plans in light of the high value of the resource, and implement more substantial project modifications that would allow the site to be preserved intact, such as redesign, placement of fill, or relocation or abandonment.

iii. Perform appropriate technical analyses, prepare a report and file it with the SCIC, and provide for the permanent curation of recovered resources, as follows:

a. The archaeologist shall ensure that all significant cultural resources collected are cleaned, catalogued, and analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; that specialty studies are completed, as appropriate; and that a letter of acceptance from the curation institution has been submitted to OWD.

b. Curation of artifacts shall be completed in consultation with the Native American representative, as applicable.

F. Residual Impacts after Mitigation

No residual impacts would remain after implementation of the PDFs, SCPs, and mitigation/ performance measures listed above.

7.4 Energy

A. Standards of Significance

Thresholds used to evaluate impacts to energy are based on applicable criteria in the State CEQA Guidelines (CCR §§15000-15387), Appendix G. A significant impact would occur if the CIP projects proposed under the 2015 WFMP Update would result in the wasteful, inefficient, or unnecessary consumption of energy.

B. Impacts

Threshold 1: Result in the inefficient, wasteful, and unnecessary use of energy

The construction and operation of CIP projects proposed under the 2015 WFMP Update would result in the consumption of energy; however, implementation of energy efficient measures (Ene-PDF-1, Ene-PDF-2, Ene-PDF-3, and Ene-PDF-4) for all CIP projects would ensure that energy use would not be inefficient, wasteful, or unnecessary.

C. Findings

Pursuant to State CEQA Guidelines §15091(a)(1), changes or alterations have been required in, or incorporated into, the CIP projects proposed under the 2015 WFMP Update which avoid or substantially lessen the potential for:

- inefficient, wasteful, and unnecessary use of energy; and
- cumulatively considerable contributions to significant cumulative impacts on energy resources considering past, present, and probable future projects (see Section 5.5 of the PEIR for cumulative impact discussion).

D. Explanation

Threshold 1: Result in the inefficient, wasteful, and unnecessary use of energy

Construction

Construction of the CIP projects would result in the consumption of fuel associated with the operation of construction equipment. Due to a number of unknown factors including the specific site conditions, the horsepower of the engine, the load factor of each machine, and the number of days each piece of equipment would be used, it is not possible to determine the precise total fuel consumption that would occur during construction at each CIP project site at this time. However, there are no unusual project site characteristics within OWD that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in other parts of the region and the state. Therefore, it is expected that construction fuel consumption associated with the CIP projects would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

Operation

Transportation Energy Demand. Traffic generated by the CIP projects is discussed in Section 4.12 of the PEIR. As addressed in this section, operation of CIP projects proposed under the 2015 WFMP Update would not generate a significant volume of new vehicle trips. The maintenance for most of the CIP projects may require approximately one visit per day. CIP projects located within the Regulatory potable water operating system (see Figure 3-2 of the PEIR) may require as many as 5-10 trips per day. Vehicular trips associated with maintenance of the CIP projects would be minimal.

Electricity Demand. Of the proposed CIP projects, the only projects that would require energy to operate would be pump station projects (for standard operation as well as emergency generators). Pipeline projects and storage projects, once constructed, would not require the use of electricity, emergency generators, or any other type of fuel-consuming operating equipment.

None of the CIP projects would require space heating or landscape equipment.

The 2015 WFMP Update proposes construction of four new pump stations within Phase IIIA. The 2015 WFMP Update proposes rehabilitation, replacement or expansion of another 11 pump station. In addition, recycled water facility project CIP R2129 would upgrade the existing PS 680-1 pump station. CIP R2130 would upgrade the pump station at the 944-1 pump station. Implementation of Ene-PDF-1 though Ene-PDF-4 would reduce the electricity required at the proposed pump stations. Measures Ene-PDF-1 and Ene-PDF-2 ensure that the new mechanical components within the proposed pump stations are more energy efficient than older mechanical equipment in existing pump stations. Measures Ene-PDF-3 and Ene-PDF-4 insure that the CIP projects operate efficiently. Therefore, the proposed pump stations would not result in the wasteful, inefficient and unnecessary consumption of energy.

E. Mitigation/Performance Measures

Implementation of Ene-PDF-1, Ene-PDF-2, Ene-PDF-3, and Ene-PDF-4 would ensure that the operation of the CIP projects within the 2015 WFMP Update would not result in the wasteful, inefficient, and unnecessary consumption of energy; therefore, no mitigation is required.

F. Residual Impacts after Mitigation

No residual impacts would remain after implementation of the PDFs, SCPs, and mitigation/ performance measures listed above.

7.5 Geology, Soils, and Paleontology

A. Standards of Significance

Thresholds used to evaluate potential geology and soils impacts are based on applicable criteria in the State CEQA Guidelines (CCR §§15000-15387), Appendix G. A significant geology and soils impact would occur if the CIP projects proposed under the 2015 WFMP Update would:

1. Expose people or CIP facilities to substantial adverse effects, including the risk of loss, injury, death or property damage involving:
    a. Rupture along a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault, as delineated on the California Division of Mines and Geology (CDMG) Special Publication 42;

b. Strong seismic ground shaking;

c. Seismic-related ground failure, including liquefaction; or

d. Landslides.

2. Result in substantial soil erosion or the loss of topsoil.
3. Be located on a geologic unit or soil that is unstable, or that would become unstable and potentially result in landslides, lateral spreading, subsidence, liquefaction or collapse.
4. Be located on expansive soil, as defined in Table 18-1-B of the 1994 Uniform Building Code (UBC), or most current edition, creating substantial risks to life or property.
5. Directly or indirectly destroy a unique paleontological resource or site.

B. Impacts

Threshold 1: Expose people or structures to potential substantial adverse effects of a rupture of a known earthquake fault, strong seismic groundshaking, seismic-related ground failure, liquefaction or landslides

Compliance with UBC and California Building Code (CBC) standards and CDMG's Special Publications 117 (Geo-PDF-1), and implementation of recommendations provided in site-specific geotechnical investigations (Geo-SCP-1), would minimize impacts associated with seismic-related groundshaking, ground failure, liquefaction, and landslides to less than significant levels.

Threshold 2: Result in substantial soil erosion or the loss of topsoil

Compliance with UBC and CBC standards (Geo-PDF-1), implementation of recommendations provided in site-specific geotechnical investigations, and implementation of standard erosion control measures (Geo-SCP-2 and Geo-SCP-3) would reduce impacts associated with soil erosion and loss of topsoil to less than significant levels.

Threshold 3: Be located on a geologic unit or soil that is unstable, or that would become unstable and potentially result in landslides, lateral spreading, subsidence, liquefaction or collapse

Implementation of recommendations provided in site-specific geotechnical investigations (Geo-SCP-1 and Geo-SCP-4) would reduce impacts associated with geologic/soil instability (landslides, lateral spreading, liquefaction/collapse) to less than significant levels.

Threshold 4: Be located on expansive soils, creating substantial risks to life or property

Implementation of recommendations provided in site-specific geotechnical investigations (Geo-SCP-1 and Geo-SCP-4) would reduce impacts associated with expansive soils to less than significant levels.

Threshold 5: Directly or indirectly destroy a unique paleontological resource or site

Implementation of the 2015 WFMP Update could result in significant impacts to potential paleontological resources within the planning area; therefore, mitigation/performance measures are required (see Threshold 5 explanation below).

C. Findings

The OWD Board of Directors finds that implementation of the 2015 WFMP Update would not involve the use of septic tanks or other alternative wastewater disposal systems. Therefore, no mitigation/ performance measures are required.

Pursuant to State CEQA Guidelines §15091(a)(1), changes or alterations have been required in, or incorporated into, the CIP projects proposed under the 2015 WFMP Update which avoid or substantially lessen the potential for:

- exposure of people or CIP facilities to substantial adverse effects, including the risk of loss, injury, death or property damage involving earthquake fault rupture, strong seismic ground shaking, seismic-related ground failure (liquefaction), and landslides;
- substantial soil erosion or the loss of topsoil;
- landslides, lateral spreading, subsidence, liquefaction or collapse;
- substantial risks to life or property due to expansive soils;
- direct or indirect impacts to a unique paleontological resource or site; and
- cumulatively considerable contributions to significant cumulative soils, geology and paleontological resources impacts considering past, present, and probable future projects (see Section 5.5 of the PEIR for cumulative impact discussion).

D. Explanation

Threshold 1: Expose people or structures to potential substantial adverse effects of a rupture of a known earthquake fault, strong seismic groundshaking, seismic-related ground failure, liquefaction or landslides

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following PDF and SCP to reduce potential impacts associated with exposure to seismic-related hazards.

Geo-PDF-1 At the time of CIP project design, OWD will implement the relevant requirements of the 2013 UBC and CBC, as updated or amended, and the CDMG Special Publication 117.

Geo-SCP-1 Prior to construction of CIP projects, areas of liquefaction and/or landslides will be identified as part of site-specific geotechnical investigations. The investigations will specifically address foundation and slope stability in liquefiable and landslide areas proposed for construction. Recommendations made in conjunction with the geotechnical investigations will be implemented during construction, including but not limited to the following actions:

i. Over-excavate unsuitable materials and replace them with engineered fill.

ii. For thinner deposits, remove loose, unconsolidated soils and replace with properly compacted fill soils, or apply other design stabilization features (i.e., excavation of overburden).

iii. For thicker deposits, implement applicable techniques such as dynamic compaction (i.e., dropping heavy weights on the land surface), vibro-compaction (i.e., inserting a vibratory device into the liquefiable sand), vibro-replacement (i.e., replacing sand by drilling and then vibro-compacting backfill in the bore hole), or compaction piles (i.e., driving piles and densifying surrounding soil).

iv. Lower the groundwater table to below the level of liquefiable soils.

v. Perform in-situ densification of soils or other alterations to the ground characteristics.

vi. For landslides, implement applicable techniques such as stabilization (i.e., construction of buttress fills, retaining walls, or other structural support to remediate the potential for instability of cut slopes composed of landslide debris); remedial grading and removal of landslide debris (e.g., over-excavation and recompaction); or avoidance (e.g., structural setbacks).

Fault Rupture

Two CIP Phase II projects, P2554 (624/340 PRS at Energy Way and Nirvana Avenue) and P2405 (624/340 PRS, Heritage Road and Hard Rock Road), would be located in the vicinity of an active fault. Implementation of Geo-PDF-1 would ensure that this project would be designed in accordance with UBC and CBC regulations regarding seismic hazards. Therefore, the project would be equipped to withstand seismic events associated with active faults, and impacts attributed to fault rupture would be reduced to a less than significant level.

Groundshaking

Groundshaking from earthquakes along any of the regional active faults listed in Section 4.5.1.3 of the PEIR, or along any of the local active faults mapped within the planning area (Figure 4.5-3 of the PEIR), could cause substantial damage to proposed reservoirs, pump stations, pipelines, groundwater wells, and other CIP facilities under the 2015 WFMP Update. However, all CIP facilities would be designed to withstand damage from seismic groundshaking to the extent feasible via compliance with the relevant requirements of the 2013 UBC and CBC, as updated or amended, and the CDMG Special Publication 117. Therefore, implementation of Geo-PDF-1 would reduce the exposure of people and CIP facilities to substantial adverse effects of strong seismic groundshaking to a less than significant level.

Ground Failure and Liquefaction

Based on the presence of liquefiable soils within a corridor along the Sweetwater River (Figure 4.5-4 of the PEIR), there is a potential for seismic-related ground failure and liquefaction to occur in this area that could cause substantial damage to two Phase II pipeline projects, P2500 (Padre Dam - Otay Interconnection, Dehesa Valley) and P2405 (624/340 PRS, Heritage Road and Hard Rock Road), and one Phase IIIB pump station project, P2379 (832-1 Pump Station Expansion, from 4,200 to 6,800 gpm). Geo-SCP-1 would require the completion of a geotechnical study prior to pipeline construction to adequately assess geotechnical issues, including the liquefaction potential of unconsolidated alluvium underlying the pipeline alignment. The geotechnical study would include sampling of subsurface earth materials; if such materials are found to be susceptible to seismically induced liquefaction, then appropriate techniques to minimize this potential would be designed and implemented, including but not limited to, removal or treatment of liquefiable soils, drainage to lower the groundwater table to below the level of liquefiable soils, in-situ densification of soils, or other alterations to the ground characteristics. Therefore, implementation of Geo-SCP-1 would reduce the exposure of people and CIP facilities to substantial adverse effects of seismic-related ground failure and liquefaction to a less than significant level.

Landslides

Based on the presence of relatively steep topography and the underlying geologic formations (Figure 4.5-2 of the PEIR), there is a potential for seismically induced landslides to cause substantial damage to the following CIP projects under the 2015 WFMP Update: P2002 (1296-2 Proctor Valley Pump Station, 4,000 gpm), P2576 (980-5 Reservoir Village 14, 2.0 MG), and P2228 (870-2 Reservoir, 7.0 MG [previously 10 MG]) projects to adequately assess geotechnical issues, including landslide potential. Such geotechnical

study would include sampling of subsurface earth materials. If such materials are found to be susceptible to seismically induced landslides, then appropriate techniques to minimize this potential would be designed and implemented, including but not limited to, remedial grading and removal of landslide debris, slope stabilization in areas of proposed development, or construction of buttress fills to remediate the potential for instability of cut slopes composed of landslide debris. Therefore, implementation of Geo-SCP-1 would reduce the exposure of people and CIP facilities to substantial adverse effects of seismically induced landslides to a less than significant level.

Threshold 2: Result in substantial soil erosion or the loss of topsoil

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCPs to reduce potential impacts associated with soil erosion or loss of topsoil, in addition to Geo-PDF-1.

Geo-SCP-2 Prior to construction of CIP projects, areas of severely erodable soils will be identified as part of site-specific geotechnical investigations. The investigations will specifically address foundation and slope stability in erodable soils proposed for construction. Recommendations made in conjunction with the geotechnical investigations will be implemented during construction, including but not limited to the following actions:

i. Minimize disturbance to existing vegetation and slopes.

ii. Construct drainage control devices (e.g., storm drains, brow ditches, subdrains, etc.) to direct surface water runoff away from slopes and other graded areas.

iii. Provide temporary hydroseeding of cleared vegetation and graded slopes as soon as possible following grading activities for areas that will remain in disturbed condition (but will not be subject to further construction activities) for a period greater than two weeks during the construction phase.

Geo-SCP-3 The construction bid documents for each CIP project will include either a 90 percent Erosion Control Plan (for projects that would result in less than one acre of land disturbance) or a 90 percent Storm Water Pollution Prevention Plan (SWPPP) (for projects that would result in one acre or greater of land disturbance). The Erosion Control Plan will comply with the storm water regulations or ordinances of the local agency jurisdiction within which the CIP project occurs, while the SWPPP will comply with the NPDES General Construction Permit. These plans will be based on site-specific hydraulic and hydrologic characteristics, and identify a range of BMPs to reduce impacts related to storm water runoff, including sedimentation BMPs to control soil erosion. The construction contractor will identify the specific storm water BMPs to be implemented during the construction phase of a given CIP project, and will prepare and implement the final Erosion Control Plan or SWPPP for that project. Typical BMPs to be implemented as part of the Erosion Control Plan or SWPPP may include, but may not be limited to, the actions listed below. For protection of finished graded areas and manufactured slopes, the construction contractor will implement OWD Standard Specifications for Slope Protection and Erosion Control (Section 02202).

i. Implement a “weather triggered” action plan during the rainy season involving installation of enhanced erosion and sediment control measures prior to predicted storm events (i.e., 40 percent or greater chance of rain).

ii. Use erosion control/stabilizing measures in cleared areas and on graded slopes of 3:1 (horizontal to vertical) gradient or steeper, such as geotextiles, mats, fiber rolls, soil binders, or temporary hydroseeding.

iii. Use sediment controls to protect the site perimeter and prevent off-site sediment transport, such as filtration devices (e.g., temporary inlet filters), silt fences, fiber rolls, gravel bags, temporary sediment basins, check dams, street sweeping, energy dissipaters, stabilized construction access points (e.g., temporary gravel or pavement) and sediment stockpiles (e.g., silt fences and tarps), and properly fitted covers for sediment transport vehicles.

iv. Divert runoff from uphill areas around disturbed areas of the construction site.

v. Protect storm drain inlets on-site or downstream of the construction site to eliminate entry of sediment.

vi. Store BMP materials in on-site areas to provide "standby" capacity adequate to provide complete protection of exposed areas and prevent off-site sediment transport.

vii. Train personnel responsible for BMP installation and maintenance.

viii. Implement solid waste management efforts such as proper containment and disposal of construction debris.

ix. Install permanent landscaping (or native vegetation in areas adjacent to natural habitats) and irrigation as soon as feasible after final grading or construction.

x. Implement appropriate monitoring and maintenance efforts (e.g., prior to and after storm events) to ensure proper BMP function and efficiency.

xi. Implement sampling/analysis, monitoring/reporting and post-construction management programs per NPDES requirements.

xii. Implement additional BMPs as necessary (and as required by appropriate regulatory agencies) to ensure adequate erosion and sediment control.

Impacts from Construction Activities

Earth-disturbing activities associated with construction and development of the CIP projects under the 2015 WFMP Update would expose soils that could be subject to erosion during rain events. In compliance with 2013 UBC and CBC regulations, a geotechnical study would be performed prior to construction of CIP projects to adequately assess geotechnical issues, including soil erosion potential. Such geotechnical study would include sampling of subsurface earth materials. If such materials are found to be susceptible to soil erosion, then appropriate techniques to minimize this potential would be designed and implemented, including but not limited to, minimizing disturbance to existing vegetation and slopes, construction of drainage control devices, and temporary hydroseeding of cleared vegetation and graded slopes. In addition, all CIP construction contractors are required to implement either an Erosion Control Plan (for projects that would result in less than one acre of land disturbance), in accordance with the storm water regulations or ordinances of the local agency jurisdiction within which the CIP project occurs, or a SWPPP (for any project greater than one acre in size), in accordance with the NPDES General Construction Permit. These plans identify BMPs to reduce impacts related to storm water runoff, including sedimentation BMPs to control soil erosion. Therefore, implementation of Geo-PDF-1, Geo-SCP-2 and Geo-SCP-3 would reduce

impacts associated with soil erosion or loss of topsoil resulting from CIP construction projects to a less than significant level.

Impacts Following Construction

Upon completion of construction, each CIP project site would be developed according to the 2015 WFMP Update and relevant erosion control regulations (refer to Geo-SCP-2 and Geo-SCP-3). Any stockpiled topsoils would be reapplied to the surface of areas proposed for landscaping or revegetation; all residual stockpiles of construction debris, unusable soils, rock, and other materials would be removed from the project site. All permanent manufactured slopes, graded areas and exposed soils would be landscaped (or revegetated in areas adjacent to natural habitats) and irrigated as soon as feasible after final grading or construction to minimize the effects of wind and water erosion. All landscaped or revegetated areas would be monitored and maintained (including irrigation systems) to ensure successful plant establishment. Therefore, implementation of Geo-PDF-1, Geo-SCP-2 and Geo-SCP-3 would reduce impacts associated with soil erosion or loss of topsoil following construction of CIP projects to a less than significant level.

Threshold 3: Be located on a geologic unit or soil that is unstable, or that would become unstable and potentially result in landslides, lateral spreading, subsidence, liquefaction or collapse

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCPs to reduce potential impacts associated with geologic/soil instability, in addition to Geo-SCP-1.

Geo-SCP-4 Prior to construction of CIP projects, areas of geologic/soil instability will be identified as part of site-specific geotechnical investigations. The investigations will specifically address foundation and slope stability within unstable geologic units/soils proposed for construction. Recommendations made in conjunction with the geotechnical investigations will be implemented during construction, including but not limited to the following actions:

i. Perform site-specific settlement analyses in areas deemed appropriate by the geotechnical engineer and evaluate the potential for groundwater-related subsidence.

ii. Over-excavate unsuitable materials and replace them with engineered fill.

iii. To minimize or avoid lateral spreading of on-site soils, remove compressible soils and replace them with properly compacted fill, perform compaction grouting or deep dynamic compaction, or use stiffened conventional foundation systems.

iv. To minimize or avoid differential compression or settlement of on-site soils, manage oversized material (i.e., rocks greater than 12 inches) via off-site disposal, placement in non-structural fill, or crushing or pre-blasting to generate material less than 12 inches. Oversized material greater than 4 feet will not be used in fills, and will not be placed within 10 feet of finished grade, within 10 feet of manufactured slope faces (measured horizontally from the slope face), or within 3 feet of the deepest pipeline or other utilities.

v. To minimize or avoid shrinking/swelling of on-site expansive soils, over-excavate for deeper fills (at least five feet below finished grade).

vi. Locate foundations and larger pipelines outside of cut/fill transition zones and landscaped irrigation zones.

Landslides

Even in the absence of a seismic event, the San Diego and Otay geologic formations have been historically susceptible to landslides throughout San Diego County, particularly where these formations occur on steep slopes and when they have become saturated. As is discussed in Section 4.5.3.1 of the PEIR, there is a potential for seismically induced landslides to cause substantial damage to the following CIP projects under the 2015 WFMP Update: P2374 (PL 30-in, 870 Zone, 870-2 Reservoir to 870-1 Reservoir), P2002 (1296-2 Proctor Valley Pump Station, 4,000 gpm), P2576 (980-5 Reservoir Village 14, 2.0 MG), and P2228 (870-2 Reservoir, 7.0 MG [previously 10 MG]). However, implementation of Geo-SCP-1 would reduce these impacts to a less than significant level.

Lateral Spreading

The sites of P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2235 (624-4 Emergency Reservoir, 30 MG (previously 40 MG), P2437 (624-4 Disinfection Facility), P2577 (980-2 Pump Station Expansion, from 12,000 to 16,000 gpm), and P2578 (711-2 Pump Station [PS 711-1 replacement], from 10,000 to 14,000 gpm) are underlain by soils that have the potential for lateral spreading (Figure 4.5-2 of the PEIR). Geo-SCP-1 and Geo-SCP-4 require the completion of a geotechnical study prior to construction of these CIP projects to adequately assess geotechnical issues, including the potential for lateral spreading. Such geotechnical study would include sampling of subsurface earth materials. If such materials are found to be susceptible to lateral spreading, then appropriate techniques to minimize this potential would be designed and implemented, including but not limited to, removal of compressible soils and replacement with properly compacted fill, compaction grouting or deep dynamic compaction, use of stiffened conventional foundation systems, management of oversized materials, or placement of foundations and larger pipelines outside of cut/fill transition zones and landscaped irrigation zones. Therefore, implementation of Geo-SCP-1 and Geo-SCP-4 would reduce potential structural impacts to the CIP facilities associated with lateral spreading to a less than significant level.

Subsidence

Construction of CIP projects under the 2015 WFMP Update may require short-term dewatering operations that necessitate groundwater-pumping within the OWD service area. Because land subsidence is a relatively slow process that may continue for several decades, such short-term use of groundwater is not expected to result in substantial subsidence effects locally. Therefore, short-term dewatering operations associated with construction of CIP projects under the 2015 WFMP Update would not result in significant impacts associated with subsidence. Long-term operations associated with the Otay Mesa Lot 7 Groundwater Well System (P2484) would involve groundwater extraction, which can result in local subsidence. Implementation of Geo-SCP-4 would evaluate the potential of subsidence associated with these two projects and reduce these impacts to a less than significant level.

Liquefaction/Collapse

As discussed in Section 4.5.3.1 above, based on the presence of liquefiable soils within a corridor along the Sweetwater River (Figure 4.5-4 of the PEIR), there is a potential for seismic-related liquefaction and ground failure to occur in this area that could cause substantial damage to two Phase II pipeline projects, P2500 (Padre Dam - Otay Interconnection, Dehesa Valley) and P2405 (624/340 PRS, Heritage Road and Hard Rock Road), and one Phase IIIB pump station project, P2379 (832-1 Pump Station Expansion, from 4,200 to 6,800 gpm). However, implementation of Geo-SCP-1 would reduce this impact to a less than significant level.

Threshold 4: Be located on expansive soils, creating substantial risks to life or property

The potential for expansive soils exists throughout large portions of the planning area (Figure 4.5-2 of the PEIR). Geo-SCP-1 and Geo-SCP-4 require the completion of a geotechnical study prior to construction of CIP projects involving excavation activities to adequately assess geotechnical issues, including the potential for expansive soils. The geotechnical study would include soil sampling of the final sub-grade areas and excavation sidewalls for their expansion index. For areas where the expansion index is found to be greater than 20, appropriate techniques to minimize the shrink/swell potential would be designed and implemented, including but not limited to, removal of expansive soils and replacement with properly compacted fill, management of oversized materials, over-excavation for deeper fills, or placement of foundations and larger pipelines outside of cut/fill transition zones and landscaped irrigation zones. Therefore, implementation of Geo-SCP-1 and Geo-SCP-4 would reduce impacts associated with expansive soils resulting from CIP construction projects to a less than significant level.

Threshold 5: Directly or indirectly destroy a unique paleontological resource or site

As shown in Figure 4.5-5 of the PEIR, portions of the planning area are underlain by geologic formations that have potential to contain fossils. For the CIP pipelines, impacts to potential paleontological resources within these geologic formations would only occur for those projects that would involve excavation into native soils, below the level of roadway fill materials. Some pipeline projects may only require excavation into roadway fill material, which would not disturb potential paleontological resources; however, the depth of fill along the CIP pipeline routes is unknown at this time. In the absence of such data, it must be assumed that grading and excavation activities associated with all of the CIP pipeline projects could have significant impacts to potential paleontological resources. In addition, grading and excavation activities associated with the following CIP reservoirs, pump stations, and related activities which would occur within the “high,” “moderate,” “low,” and “marginal” paleontological sensitivity areas (Figure 4.5-5 of the PEIR), could have significant impacts to potential paleontological resources. Table 4.5-3 of the PEIR lists projects that would occur within established areas of paleontological sensitivity.

E. Mitigation/Performance Measures

Implementation of the following measures would reduce impacts to potential paleontological resources to a less than significant level. These are considered both mitigation and performance measures since the same measures are required for both the near-term and long-term projects.

Geo-5A During the design phase for all CIP pipeline projects within the 2015 WFMP Update, available data shall be reviewed on the depth of fill below existing roads in which pipelines would be installed. If such review indicates that native soils would not be disturbed by pipeline trenching activities, then paleontological monitoring will not be required for those CIP projects, and this determination shall be documented by OWD in accordance with CEQA requirements. If it is determined that native soils would be disturbed by pipeline trenching activities, then a paleontological monitoring program shall be implemented in accordance with measures Geo-5B through Geo-5D.

Geo-5B Prior to grading for CIP projects, OWD shall retain a qualified paleontologist to monitor all ground-disturbing activities for all CIP projects described under Section 4.5.3.5 of the PEIR. A record of monitoring activity shall be submitted to OWD each month and at the end of monitoring.

Geo-5C In the event fossils are discovered during ground-disturbing activities, the on-site construction supervisor shall be notified and shall redirect work away from the location of the discovery, so that the fossils can be removed by the paleontologist for significance evaluations. The on-

site construction supervisor shall be notified by the paleontologist when the fossils have been removed, at which time the construction supervisor shall direct work to continue in the location of the fossil discovery.

Geo-5D For fossils removed from the construction site in accordance with measure Geo-5C that are determined to be significant, the following measures shall be implemented:

i. The paleontologist shall ensure that all significant fossils collected are cleaned, identified, catalogued, and permanently curated with an appropriate institution with a research interest in the materials;

ii. The paleontologist shall ensure that specialty studies are completed, as appropriate, for any significant fossil collected; and

iii. The paleontologist shall ensure that curation of fossils are completed in consultation with OWD. A letter of acceptance from the curation institution shall be submitted to OWD.

F. Residual Impacts after Mitigation

No residual impacts would remain after implementation of the PDFs, SCPs, and mitigation/ performance measures listed above.

7.6 Global Climate Change

A. Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2015 WFMP Update may have a significant adverse impact if it would result in the generation of GHGs, either directly or indirectly, that may have a significant impact on the environment.

Note that the CEQA Guidelines do not quantify the amount of GHG emissions that would constitute a significant impact on the environment. Instead, they leave the determination of the significance of GHG emissions up to the lead agency, and authorize the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts (CEQA Guidelines Sections 15064.4(a) and 15064.7(c).)

Specifically, CEQA Guidelines Section 15064.7(c) states, "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

OWD utilizes the thresholds of significance adopted by the County of San Diego in November 2013 to determine whether the GHG emissions from a project may have a significant impact on the environment. The County's Guidelines for Determining Significance for Climate Change are based on regional data including the incorporated cities and therefore may be used by lead agencies in the region other than the County of San Diego. The purpose of the guidelines is to ensure that new development in San Diego County achieves its fair share of emissions reductions needed to meet the statewide AB 32 mandate (County 2012).

The County's guidelines establish a screening level threshold for annual emissions of 2,500 MT CO_2e. Projects that would emit less than 2,500 MT CO_2e are considered to have insignificant emissions and would not affect the region's ability to meet reduction goals. This screening level applies separately to

both construction and operation. Therefore, projects that result in emissions that are below this screening level would not result in significant GHG emissions and no further analysis is required.

B. Impacts

Threshold 1: Generation of Greenhouse Gases Emissions

The construction emissions inventory cannot be reasonably quantified at this time. The construction of CIP projects proposed under the 2015 WFMP Update may result in construction emissions above the annual 2,500 MT CO_2e county threshold and impacts may be significant. Operational GHG emissions from the CIP projects would be less than significant.

Threshold 2: Conflicts with Applicable Plan, Policy, or Regulation

See Threshold 1 impact analysis.

C. Findings

The OWD Board of Directors finds that implementation of the 2015 WFMP Update would not

- definitively increase construction or operational GHG levels

Therefore, no mitigation/performance measures are required.

Pursuant to State CEQA Guidelines §15091(a)(1), changes or alterations have been required in, or incorporated into, the CIP projects proposed under the 2015 WFMP Update which avoid or substantially lessen the potential for

- significant adverse impact if it would result in the generation of GHGs, either directly or indirectly, that may have a significant impact on the environment;
- conflicts with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases; and
- cumulatively considerable net increases of any criteria pollutant for which the SDAB is non-attainment under the NAAQS and CAAQS, including releasing emissions which exceed quantitative thresholds for O_3 precursors (see Section 5.5 of the PEIR for cumulative impact discussion).

D. Explanation

Threshold 1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Implementation of the 2015 WFMP Update, would include, but would not be limited to, the following SCP to reduce potential impacts associated with the generations of GHGs.

Air-SCP-3 During project construction activities, the CIP Project Construction Manager will supervise the following BMPs to reduce emissions associated with diesel equipment:

i. Properly operate and maintain all diesel-powered vehicles and equipment.

ii. Retrofit diesel-powered equipment with “after-treatment” products (e.g., diesel oxidation catalysts, diesel particulate filters).

iii. Use electric or natural gas-powered construction equipment in lieu of gasoline or diesel-powered engines.

iv. Turn off all diesel-powered vehicles and gasoline-powered equipment when not in use for more than five minutes.
v. Support and encourage ridesharing and transit incentives for the construction crew.
vi. Encourage the use of locally available building materials, such as concrete, stucco, and interior finishes.
vii. Use light-colored or a high-albedo (reflectivity) concrete and asphalt paving materials with a Solar Reflectance Index of 29 or higher.
viii. Establish a construction management plan with the local waste hauler that diverts a minimum of 50% of construction, demolition, and site clearing waste.

Construction Emissions

Construction of CIP projects proposed under the 2015 WFMP Update would result in temporary emissions of GHGs from the operation of construction equipment and from worker and building supply vendor vehicles. A full list of the CIP projects are listed in Tables 3-1 through 3-4 of Chapter 3 of the PEIR. Equipment that would be associated with construction of the proposed CIP projects would likely include site preparation, trenching, grading, and paving activities. These activities may include the use of excavators, industrial saws, pavers, rollers, dozers, graders, tractors, and scrapers. At this time, many of the CIP projects under the 2015 WFMP Update are still in the design phase, and as such, information regarding the number and type of construction equipment required and the duration of construction activities is still unknown. The construction emissions inventory cannot be reasonably quantified at this time. The construction of CIP projects proposed under the 2015 WFMP Update may result in construction emissions above the annual 2,500 MT CO_2e county threshold and impacts may be significant.

Operational Emissions

Operational GHG emissions from the CIP projects would include indirect emissions from electricity usage, and direct emissions from mobile (vehicle trips associated with project maintenance), stationary sources (fuel combustion from emergency generators). Of the proposed CIP projects, the only projects that may generate stationary operational GHG emissions would be pump stations. It is assumed that pipeline projects, groundwater wells, and storage projects, once constructed, would not require substantial demands of electricity, or require the use of emergency generators, or any other fuel-consuming operating equipment. A list of the pump station projects are shown in Table 3-2 of the PEIR.

The 2015 WFMP Update proposes construction of twelve new pump stations: two within Phase II, six within Phase IIIA, and four within Phase IIIB. Mobile sources of GHG emissions for the CIP Projects would be primarily associated with vehicular trips by employees. However, operation of CIP projects proposed under the 2015 WFMP Update would not generate a significant volume of new vehicle trips. The only source of stationary GHG emissions would be from diesel-fueled standby emergency generators. Standby generators are not used frequently or for extended durations, and are only tested once per month for a period of less than one hour. GHG emissions from mobile and stationary sources would be marginal. The largest source of GHG emissions would be indirect GHG emissions resulting from electricity usage to power the pump stations. Due to state legislation such as SB 350, electricity will continue to become increasingly efficient as the California Renewables Portfolio Standards Program increases the electricity generated by renewable energy. Indirect GHG emissions from electricity usage to power pump stations would be unlikely to exceed the 2,500 MT CO_2e county threshold and would likely decrease over time. As such, potential impacts due to the operational GHG emissions would be less than significant.

Threshold 2: Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

The PDFs/SCPs for above under Threshold 1 would apply to Issue 2 as well.

As demonstrated in Section 4.6.3.1 of the PEIR, construction of the 2015 WFMP Update CIP projects may exceed the county threshold without mitigation. However, operational GHG emissions are unlikely to exceed the CEQA screening level threshold of 2,500 MT CO_2e. Therefore, this impact will be potentially significant.

E. Mitigation/Performance Measures

Implementation of the following mitigation measure would reduce potential impacts from construction GHG emissions to less than significant.

GHG-1 Otay Water District will prepare annual construction activity estimates prior to undertaking the first construction activity of any year. The annual construction estimate shall demonstrate that the annual construction equipment use will be less than or equal to the activity shown in Table 4.6-4 of the PEIR.

Operational GHG emissions would be unlikely to exceed the 2,500 MT CO_2e county threshold and potential impacts would be less than significant; therefore, no mitigation is required for operational activities.

F. Residual Impacts after Mitigation

No residual impacts would remain after implementation of the PDFs, SCPs, and mitigation/ performance measures listed above.

7.7 Hydrology and Water Quality

A. Standards of Significance

Thresholds used to evaluate potential impacts on hydrology and water quality are based on applicable criteria in the State CEQA Guidelines (CCR §§15000-15387), Appendix G. A significant impact on these resources would occur if the CIP projects proposed under the 2015 WFMP Update would:

1. Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality.
2. Substantially degrade groundwater quality, or interfere substantially with groundwater supplies or recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
3. Substantially alter existing drainage patterns, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would provide substantial additional sources of polluted runoff (including erosion/siltation); result in flooding (and exposure of people or structures to a significant risk of loss, injury or death); or exceed the capacity of storm water drainage systems.
4. Expose above-ground CIP structures to a significant risk of loss involving inundation by mudflow.

5. Result in a cumulatively considerable contribution to significant cumulative hydrology and water quality impacts considering past, present, and probable future projects.
6. Place structures within a 100-year flood hazard area, which would impede or redirect flood flows.
7. Have the potential to be inundated by tsunami or seiche.
8. Expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam.

B. Impacts

Threshold 1: Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality

Implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, and Hyd-PDF-1 would reduce impacts associated with potential violations of water quality standards or waste discharge requirements resulting from construction and operation of CIP projects under the 2015 WFMP Update to a less than significant level.

Threshold 2: Substantially degrade groundwater quality, or interfere substantially with groundwater supplies or recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table

Implementation of Geo-SCP-3 and Hyd-SCP-1 would reduce potential groundwater quality impacts due to storm water runoff pollution associated with construction of P2391 (Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (624/340 PRS, Heritage Road and Hard Rock Road), P2579 (Temporary Lower Otay Pump Station Rehabilitation), and P2392 (Lower Otay Pump Station Replacement and Expansion, from 12,500 to 18,000 gpm) to a less than significant level. Implementation of Geo-SCP-2 and Hyd-PDF-1 would reduce potential groundwater quality impacts due to storm water runoff pollution associated with development and long-term operations at P2391 (Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (624/340 PRS, Heritage Road and Hard Rock Road), P2579 (Temporary Lower Otay Pump Station Rehabilitation), and P2392 (Lower Otay Pump Station Replacement and Expansion, from 12,500 to 18,000 gpm) to a less than significant level.

Threshold 3: Substantially alter existing drainage patterns, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would provide substantial additional sources of polluted runoff (including erosion/siltation); result in flooding (and exposure of people or structures to a significant risk of loss, injury or death); or exceed the capacity of storm water drainage systems

Implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, and Hyd-PDF-1 would reduce impacts associated with storm water runoff pollution (including erosion and excess siltation) from construction and operation of CIP projects under the 2015 WFMP Update to a less than significant level. Implementation of Geo-SCP-2, Geo-SCP-3, and Hyd-PDF-2 would reduce temporary (construction) and permanent (operational) impacts associated with potential flooding at CIP project sites to a less than significant level. Implementation of Geo-SCP-2, Geo-SCP-3, and Hyd-PDF-2 would reduce impacts associated with potentially exceeding the capacity of storm water drainage systems (for construction, post-construction, and developed conditions) to a less than significant level.

Threshold 4: Inundation by mudflow

Implementation of Geo-SCP-1 would reduce the exposure of people and CIP facilities to substantial adverse effects associated with potential mudflows to a less than significant level.

C. Findings

The OWD Board of Directors finds that implementation of the 2015 WFMP Update would not result in placement of a structure within a 100-year flood hazard area that would otherwise impede or redirect flood flows; or expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam. The OWD Board of Directors further finds that implementation of the 2015 WFMP Update would not result in placement of a structure within an area that would be at significant risk for inundation by a tsunami or seiche. Therefore, no mitigation/performance measures are required for these issues.

Pursuant to State CEQA Guidelines §15091(a)(1), changes or alterations have been required in, or incorporated into, the CIP projects proposed under the 2015 WFMP Update which avoid or substantially lessen the potential for:

- violation of any water quality standards or waste discharge requirements, or substantial degradation of water quality;
- substantial degradation of groundwater quality, or interference with groundwater supplies or recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table;
- substantial alteration of existing drainage patterns or substantial increase in the rate or amount of surface runoff in a manner which would provide substantial additional sources of polluted runoff;
- exposure of above-ground CIP structures to a significant risk of loss involving inundation by mudflow; and
- cumulatively considerable contributions to significant cumulative hydrology and water quality impacts considering past, present, and probable future projects (see Section 5.5 of the PEIR for cumulative impact discussion).

D. Explanation

Threshold 1: Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCP and PDF, as well as Geo-SCP-2 and Geo-SCP-3 (refer to Section 7.4 above), to reduce potential impacts to water quality standards.

Hyd-SCP-1 In accordance with the Water Agencies' Standards, the construction contractor is required to implement a safety plan at each CIP construction site that would involve the transport, storage, use, and disposal of hazardous materials. Such plans will also specify storm water BMPs, to be consistent with those identified in Geo-SCP-3 (refer to Section 7.4 above), to minimize downstream water quality degradation from runoff pollution associated with CIP construction activities.

Hyd-PDF-1 For each CIP facility that would involve the transport, storage, use, and disposal of hazardous materials during project operation, OWD will implement a site-specific Hazardous Materials Business Plan (HMBP), including BMPs to prevent downstream water quality degradation from runoff pollution associated with CIP post-construction operations. In addition, OWD is required to obtain a permit from the County Department of Environmental Health (DEH) allowing for the use of specified hazardous substances during the CIP post-construction operation of these sites (refer to Section 4.11, Public

Safety, of this PEIR). Typical BMPs to be implemented as part of the HMBP may include, but are not limited to, the actions listed below.

i. Minor chemical spills will be contained by absorbent, using trained employees in proper protective equipment, and waste will be placed in a properly labeled container for disposal.

ii. For major chemical spills, employees will notify the local fire department. Prior to arrival by emergency responders, trained employees using proper protective equipment will attempt to contain the spill using absorbent, physical barriers, or other methods as specified in the HMBP, and prevent it from entering the storm drain and from discharging off-site as runoff.

Construction Impacts

Storm water pollutants associated with construction activities could include, but are not limited to, sediments, oil and grease, and organic compounds. Water quality standards and waste discharge requirements that would be applicable to OWD and to the CIP projects under the 2015 WFMP Update are set forth by the SWRCB and/or the RWQCB. As described in Geo-SCP-2 and Geo-SCP-3 (refer to Section 7.4 above), all CIP construction contractors are required to implement construction and post-construction BMPs in accordance with either an Erosion Control Plan (for projects that would result in less than one acre of land disturbance), pursuant to the storm water regulations or ordinances of the local agency jurisdiction within which the CIP project occurs, or in accordance with a SWPPP (for any project greater than one acre in size), pursuant to the NPDES General Construction Permit. In addition, as described in Hyd-SCP-1 above, prior to grading, all CIP construction contractors are required to submit and implement a safety plan. These plans would also identify construction BMPs to reduce impacts to surface water quality due to storm water runoff pollution from construction sites including, but not limited to, erosion control/stabilizing measures in cleared areas and on graded slopes (e.g., geotextiles, mats, fiber rolls, soil binders, temporary hydroseeding); sediment controls (e.g., temporary inlet filters, silt fences, fiber rolls, gravel bags, temporary sediment basins, check dams, street sweeping, energy dissipaters); and stabilized construction access points (e.g., temporary gravel or pavement) and sediment stockpiles (e.g., silt fences and tarps).

Operational Impacts

Potential storm water pollutants associated with the developed CIP project sites could include, but are not limited to, sediment discharges, nutrients from fertilizers, heavy metals, organic compounds, trash and debris deposited in drain inlets, oxygen demanding substances, oil and grease, bacteria and viruses, and pesticides from landscaping. For long-term operations at CIP reservoirs, pump stations, and groundwater wells that would involve the transport, storage, use, and disposal of hazardous materials, OWD would prepare and implement a HMBP and obtain and comply with a DEH permit, as described in Hyd-PDF-1 above. The HMBP would identify post-construction BMPs to reduce potential impacts to surface water quality due to storm water runoff pollution from developed sites including, but not limited to, containment of chemical spills (e.g., absorbent, physical barriers, or other methods) by trained employees using proper protective equipment and disposal of waste in a properly labeled container; and notification of emergency response agencies for major chemical spills. Therefore, implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, and Hyd-PDF-1 would reduce impacts associated with potential violations of water quality standards or waste discharge requirements resulting from construction and operation of CIP projects under the 2015 WFMP Update to a less than significant level.

Threshold 2: Substantially degrade groundwater quality, or interfere substantially with groundwater supplies or recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table

Groundwater Quality

Construction Impacts. As shown in Figure 4.7-3, no CIP projects would be located within the Sweetwater and Otay Valley groundwater basins; however, the following projects would be constructed adjacent to these basins, and could therefore affect the quality of groundwater in these basins: P2391 (Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (624/340 PRS, Heritage Road and Hard Rock Road), P2579 (Temporary Lower Otay Pump Station Rehabilitation), and P2392 (Lower Otay Pump Station Replacement and Expansion, from 12,500 to 18,000 gpm). Pollutants generated by construction activities for these CIP projects could potentially be carried in runoff that may drain off-site and percolate into the nearby groundwater basins. Storm water pollutants associated with construction activities are listed in Section 4.7.3.1 of the PEIR and could include, but are not limited to, sediments, oil and grease, and organic compounds. However, implementation of Geo-SCP-3 and Hyd-SCP-1 would reduce potential groundwater quality impacts due to storm water runoff pollution associated with construction of P2391 (Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (624/340 PRS, Heritage Road and Hard Rock Road), P2579 (Temporary Lower Otay Pump Station Rehabilitation), and P2392 (Lower Otay Pump Station Replacement and Expansion, from 12,500 to 18,000 gpm) to a less than significant level.

Operational Impacts. Following construction of P2391 (Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (624/340 PRS, Heritage Road and Hard Rock Road), P2579 (Temporary Lower Otay Pump Station Rehabilitation), and P2392 (Lower Otay Pump Station Replacement and Expansion, from 12,500 to 18,000 gpm), pollutants generated by development and operational activities for these CIP projects could potentially be carried in runoff that may drain off-site and percolate into the nearby groundwater basins. Such storm water pollutants are listed in Section 4.7.3.1 of the PEIR and could include, but are not limited to, sediment discharges, nutrients from fertilizers, heavy metals, organic compounds, trash and debris deposited in drain inlets, oxygen demanding substances, oil and grease, bacteria and viruses, and pesticides from landscaping. In addition, the Otay Mesa Lot 7 groundwater well development project (P2482) would involve groundwater extraction. This CIP project would involve the addition of water treatment facilities to the existing wells which would avoid impacts to groundwater quality. Implementation of Geo-SCP-2 and Hyd-PDF-1 would reduce potential groundwater quality impacts due to storm water runoff pollution associated with development and long-term operations at P2391 (Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (624/340 PRS, Heritage Road and Hard Rock Road), P2579 (Temporary Lower Otay Pump Station Rehabilitation), and P2392 (Lower Otay Pump Station Replacement and Expansion, from 12,500 to 18,000 gpm) to a less than significant level.

Groundwater Supplies and Recharge

The Otay Mesa Lot 7 groundwater well development project (P2482) would involve groundwater extraction. The groundwater well is estimated to extract between 300 and 500 AFY (per Section 4.7.3.2 of the PEIR). The amount of groundwater extraction associated with P2482 would not increase over existing conditions. Therefore, CIP project P2482 would not result in a net deficit in aquifer volume or a lowering of the local groundwater table.

As shown in Figure 4.7-3 of the PEIR, construction of the CIP reservoirs and pump stations would occur outside of the Sweetwater and Otay Valley groundwater basins. In addition, these projects would be located at higher elevations than the adjacent groundwater basins; therefore, it would not be practical to

install groundwater pumps and pipelines to serve these sites for any dewatering activities that may be required for construction of these CIP projects. Since none of these CIP projects would be placed over the Sweetwater and Otay Valley groundwater basins, there would not be an increase in impermeable surface areas that would otherwise substantially prohibit groundwater percolation. Therefore, there would be no impacts to groundwater supplies and recharge from implementation of the 2015 WFMP Update.

Threshold 3: Substantially alter existing drainage patterns, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would provide substantial additional sources of polluted runoff (including erosion/siltation); result in flooding (and exposure of people or structures to a significant risk of loss, injury or death); or exceed the capacity of storm water drainage systems

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following PDF, as well as Geo-SCP-2 and Geo-SCP-3 (refer to Section 4.5.3.2, Geology, of the PEIR), to reduce potential impacts associated with potential storm water runoff pollution (including erosion/siltation), flooding and exceedance of capacity of storm water drainage facilities due to alteration of localized drainage patterns.

Hyd-PDF-2 At the time of CIP project design, the OWD will implement the relevant requirements of the 2013 UBC and CBC for all above-ground CIP projects (reservoirs, pump stations, and facilities for groundwater production wells), including the design of appropriately sized drainage facilities, where necessary, to capture runoff from each project site to reduce the risk of flooding.

Increases in Surface Runoff - Additional Sources of Polluted Runoff/Erosion/Siltation

None of the CIP projects under the 2015 WFMP Update would be located within a drainage course. Although not altering drainage courses, construction and development of the CIP project sites could result in the localized alteration of drainage patterns through topographic modifications. Such alterations of drainage patterns may result in temporary (during construction) and permanent (post-construction) increases in the rate or amount of surface runoff discharging from the CIP project sites which could represent additional pollutant sources, including erosion and downstream siltation. However, implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, and Hyd-PDF-1 would reduce impacts associated with storm water runoff pollution (including erosion and excess siltation) from construction and operation of CIP projects under the 2015 WFMP Update to a less than significant level.

Flooding

In addition to potential impacts associated with increased runoff pollutants, alteration of drainage courses could also result in temporary or permanent increases in runoff volumes that could cause ponding and/or flooding events. However, as described in Geo-SCP-2 and Geo-SCP-3 (refer to Section 7.4 above), all CIP construction contractors are required to implement construction and post-construction BMPs in accordance with either an Erosion Control Plan (for projects that would result in less than one acre of land disturbance), pursuant to the storm water regulations or ordinances of the local agency jurisdiction within which the CIP project occurs, or in accordance with a SWPPP (for any project greater than one acre in size), pursuant to the NPDES General Construction Permit. These plans identify BMPs to reduce temporary flooding impacts, such as detention basins to collect surface water runoff and allow it to percolate slowly into the soils. In addition, as described in Hyd-PDF-2 above, to prevent flooding from the developed sites, all CIP reservoirs, pump stations, and above-ground facilities for groundwater production wells would be designed to include appropriately sized drainage facilities to capture and convey storm water flows, in accordance with UBC and CBC standards. Therefore, implementation of Geo-SCP-2, Geo-SCP-3, and Hyd-

PDF-2 would reduce temporary (construction) and permanent (operational) impacts associated with potential flooding at CIP project sites to a less than significant level.

Storm Water Drainage Capacity

Temporary and/or permanent alterations of localized drainage patterns may result in increases in the rate or volume of surface runoff discharging from the CIP project sites which could exceed the capacity of existing or planned off-site storm water drainage systems. However, as described in Geo-SCP-2 and Geo-SCP-3 (refer to Section 7.4 above), all CIP construction contractors are required to implement construction and post-construction BMPs in accordance with either an Erosion Control Plan (for projects that would result in less than one acre of land disturbance), pursuant to the storm water regulations or ordinances of the local agency jurisdiction within which the CIP project occurs, or in accordance with a SWPPP (for any project greater than one acre in size), pursuant to the NPDES General Construction Permit. These plans identify BMPs to reduce temporary flooding impacts, such as detention basins to collect surface water runoff and allow it to percolate slowly into the soils. For the developed condition, all CIP reservoirs and pump stations would be designed to include appropriately sized drainage facilities to capture and convey storm water runoff flows, in accordance with UBC and CBC standards. With these drainage facilities in place, the incremental increase in surface runoff flows from the developed reservoir and pump station sites are not expected to exceed the capacity of storm water drainage systems. Therefore, implementation of Geo-SCP-2, Geo-SCP-3, and Hyd-PDF-2 would reduce impacts associated with potentially exceeding the capacity of storm water drainage systems (for construction, post-construction, and developed conditions) to a less than significant level.

Threshold 4: Inundation by mudflow

As discussed in Section 4.5.3.1 (Geology) of this PEIR, based on the presence of relatively steep topography and the underlying San Diego and Otay geologic formations within the planning area (refer to Figure 4.5-2 of the PEIR), there is a potential for seismically induced landslides and mudflows to occur in these areas that could cause substantial damage to the following CIP projects under the 2015 WFMP Update: P2002 (Phase IIIA pump station), P2576 (Phase III water storage), and P2228 (Phase III water storage). Geo-SCP-1 would require the completion of a geotechnical study prior to construction of these CIP projects to adequately assess geotechnical issues, including mudflow potential. Such geotechnical study would include sampling of subsurface earth materials. If such materials are found to be susceptible to mudflows, then appropriate techniques to minimize this potential would be designed and implemented, including but not limited to, remedial grading, slope stabilization in areas of proposed development, or construction of buttress fills to remediate the potential for instability of cut slopes. Therefore, implementation of Geo-SCP-1 would reduce the exposure of people and CIP facilities to substantial adverse effects associated with potential mudflows to a less than significant level.

E. Mitigation/Performance Measures

Implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, and Hyd-PDF-1 would reduce impacts associated with potential violations of water quality standards or waste discharge requirements and potential surface water quality degradation resulting from construction, development and long-term operations of CIP projects under the 2015 WFMP Update to a less than significant level; therefore, no mitigation is required.

Implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, and Hyd-PDF-1 would reduce potential groundwater quality impacts due to storm water runoff pollution associated with construction, development and long-term operations at P2391 (Perdue WTP Pump Station, 10,000 gpm), P2554 (624/340 PRS at Energy Way and Nirvana Avenue), P2405 (624/340 PRS, Heritage Road and Hard Rock Road), P2579 (Temporary Lower Otay Pump Station Rehabilitation), and P2392 (Lower Otay Pump Station

Replacement and Expansion, from 12,500 to 18,000 gpm) to a less than significant level. In addition, there would be no impacts to groundwater supplies and recharge from implementation of the 2015 WFMP Update; therefore, no mitigation is required.

Implementation of Geo-SCP-2, Geo-SCP-3, Hyd-SCP-1, Hyd-PDF-1, and Hyd-PDF-2 would reduce potential impacts from storm water runoff pollution (including erosion/siltation), flooding, and exceedance of capacity of storm water drainage facilities due to alteration of localized drainage patterns associated with construction and operation of CIP projects under the 2015 WFMP Update to a less than significant level; therefore, no mitigation is required.

Implementation of Geo-SCP-1 would reduce the exposure of above-ground CIP facilities to substantial adverse effects associated with mudflows to a less than significant level; therefore, no mitigation is required.

F. Residual Impacts after Mitigation

No residual impacts would remain after implementation of the PDFs, SCPs, and mitigation/ performance measures listed above.

7.8 Landform Alteration and Visual Aesthetics

A. Standards of Significance

Thresholds used to evaluate potential landform alteration/visual aesthetics impacts are based on applicable criteria in the State CEQA Guidelines (CCR §§15000-15387), Appendix G. A significant impact would occur if the CIP projects proposed under the 2015 WFMP Update would:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially degrade the existing visual character or quality of the CIP project sites and their surroundings.
3. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the immediate vicinity of the CIP projects.
4. Result in a cumulatively considerable contribution to significant cumulative landform alteration and visual aesthetics impacts considering past, present, and probable future projects.
5. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.

B. Impacts

Threshold 1: Substantial adverse effects on a scenic vista

Implementation of Aes-PDF-1 would reduce the visual impacts of P2431 (Res 980-4), P2228 (Res 870-2), P2392 (LOPS), P2256 (PS 978-2), P2374 (PS 870-2), and P2391 (PS Perdue WTP) on scenic vistas within the OWD jurisdiction to a less than significant level.

Threshold 2: Substantially degrade the existing visual character or quality of the project sites and their surroundings

Implementation of Aes-PDF-1 and any additional project-specific mitigation measures identified in subsequent CEQA documentation would reduce visual impacts resulting from construction activities and design of above-ground CIP projects under the 2015 WFMP Update to a less than significant level.

Threshold 3: Create a new source of substantial light or glare that would adversely affect day or nighttime views in the immediate vicinity of the CIP projects

Implementation of Aes-PDF-1, low-reflective paint and glass would be used, reducing impacts from glare to less than significant levels.

C. Findings

The OWD Board of Directors finds that implementation of the 2015 WFMP Update would not impact views from State scenic highways or Chula Vista Scenic Roadways. Therefore, no mitigation/performance measures are required.

Pursuant to State CEQA Guidelines §15091(a)(1), changes or alterations have been required in, or incorporated into, the CIP projects proposed under the 2015 WFMP Update which avoid or substantially lessen the potential for:

- substantial adverse effects on a scenic vista;
- substantial degradation of the existing visual character or quality of the CIP project sites and their surroundings;
- substantial light or glare that would adversely affect day or nighttime views in the immediate vicinity of the CIP projects; and
- cumulatively considerable contributions to significant cumulative landform alteration and visual aesthetics impacts considering past, present, and probable future projects (see Section 5.5 of the PEIR for cumulative impact discussion).

D. Explanation

Threshold 1: Substantial adverse effects on a scenic vista

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following PDF to reduce potential impacts to scenic vistas.

Aes-PDF-1 In accordance with Water Agencies' Standards and standard operating procedures, the following design, landscaping and irrigation measures will be implemented for CIP projects:

i. Reservoirs, pump station buildings, and groundwater wells will use appropriate building materials and color palettes that visually blend the structures in with their surroundings (natural and urban).

ii. Reservoirs, pump station buildings, and groundwater wells will use low-reflective paint and glass.

iii. For portions of pipeline projects installed in naturally vegetated areas, the disturbance footprints for the pipeline corridor and associated staging areas will be hydroseeded, following backfilling and recontouring, using a non-irrigated native plant mix consistent with original site conditions and surrounding vegetation.

iv. For CIP reservoirs, pump stations, and groundwater wells in naturally vegetated settings, any disturbed unpaved areas following construction will be revegetated (hydroseeding and/or plantings) using native plant materials consistent with original site conditions and surrounding vegetation. A temporary irrigation system will be installed and maintained by OWD, or watering trucks shall be used at a frequency to be determined by OWD to maintain successful plant growth. Temporary irrigation will be discontinued upon OWD's determination that the landscaping has permanently established, without the need for supplemental watering.

v. For CIP reservoirs, pump stations and groundwater projects in urban settings, any disturbed unpaved areas following construction will be landscaped using plant materials consistent with original site conditions and/or surrounding ornamental vegetation. A permanent irrigation system will be installed and maintained by OWD.

The County of San Diego, City of San Diego, and City of Chula Vista General Plans have identified "highly valued landscapes," which for the purpose of this analysis are defined as scenic topographic and aquatic features, that occur within or adjacent to the planning area. In the following discussion, an evaluation of the relevant above-ground CIP projects that have the potential to impact a scenic vista is provided. CIP pipeline projects that are underground and, therefore, will not impact a scenic vista are not included in the discussion below. In addition to these pipeline projects, Table 4.8-1 of the PEIR identifies CIP projects that would not feature above-ground structures, or are in areas where development has already occurred, and are not discussed further.

San Miguel/Mother Miguel Mountains

The San Miguel and Mother Miguel mountains are located in the central portion of the planning area, and have peak elevations of 2,565 feet AMSL and 1,512 feet AMSL, respectively (Figure 4.8-2 of the PEIR).

P2431: Res 980-4 would be located adjacent to the existing 1090-1 Reservoir, on an undeveloped foothill at the northern base of San Miguel Mountain.

P4231: Res 980-4 would be within the viewshed of San Miguel Mountain; however, since it would be placed immediately adjacent to an existing 500-gallon reservoir, the construction of the new reservoir would not substantially alter the existing viewshed, and with implementation of Aes-PDF-1, the impact to the scenic vista would be less than significant.

P2002: PS 1296-2 would be located along Proctor Valley Road, although its exact location has not yet been determined. Proctor Valley Road is a relatively flat undeveloped area with an approximate elevation of 800 feet AMSL. For purposes of this analysis, it is assumed P2002 would be situated approximately 1.5 miles southeast of San Miguel Mountain and approximately three miles east of Mother Miguel Mountain (Figure 4.8-2 of the PEIR). With implementation of Aes-PDF-1, P2002 would not impact this scenic vista.

P2142: Res 1296-4 would be located on an undeveloped hill with an approximate elevation of 1,000 feet AMSL. P2142 would be situated approximately three miles east of San Miguel Mountain and approximately five miles east of Mother Miguel Mountain. With implementation of Aes-PDF-1, P2142 would not impact this scenic vista.

P2576: Res 980-5 in the Central Area System would be located just east of P2002 (PS 1296-2) in an undeveloped hill with an approximate 1,000 feet of elevation. With implementation of Aes-PDF-1, P2576 would not impact this scenic vista.

Jamul Mountains

The Jamul Mountains are located northeast of the Upper and Lower Otay reservoirs, the majority of which are just outside the central portion of the planning area (Figure 4.8-2 of the PEIR). The peak of the Jamul Mountains is at 1,627 feet AMSL.

P2248: PS 944-1 pump expansion would be located approximately two miles northwest and northeast, respectively, of the Jamul Mountains. Due to the large distances from these mountains, this CIP project would not impact this scenic vista.

P2431: Res 980-4 would be located on a lower hilltop at the southwestern base of the Jamul Mountains, and would be clearly visible to viewers southwest of the reservoir. These viewers would consist of motorists along Otay Lakes Road and future residents of the planned Rolling Hills Ranch (refer to "Village 13" in Figure 3-2 of the PEIR), which would contain residential, commercial and other uses, as designated by the Chula Vista *Major Project and Redevelopment Areas* map (Chula Vista 2002). Due to the view orientation of drivers along Otay Lakes Road, P2431 (Res 980-4) is not expected to impact the scenic vista offered by the Jamul Mountains to these motorists. This is because, once constructed, the reservoir would blend into the overall landscape from the viewpoint of motorists who would tend to focus on the roadway. If P2431 (Res 980-4) is constructed prior to Rolling Hills Ranch, then it would be a part of the pre-existing landscape for these viewers, and it would not impact the scenic vista offered by the Jamul Mountains. However, if it is constructed after Rolling Hills Ranch, then the "starkness" of the new reservoir and associated grading could result in a significant impact to this scenic vista. Implementation of Aes-PDF-1 would minimize potential visual impacts to a less than significant level.

Sweetwater Reservoir

Sweetwater Reservoir is located approximately 9 miles southeast of the City of San Diego, just outside the westerly boundary of the planning area (Figure 4.8-2 of the PEIR). The 28,100 acre-foot reservoir is formed by the Sweetwater Dam.

P2584: Demolition of the existing reservoir 657-1 would occur approximately one mile north of Sweetwater Reservoir. This project involves the removal of the existing reservoir and revegetation of the project site. No new structures would be constructed; therefore, no visual impacts to this scenic vista would occur.

P2585: This project would include 2 pump stations in undeveloped native soil about 2 miles north of Sweetwater Reservoir. The construction of P2585 would minimally impact visual aesthetics of the scenic vista.

P2407: A proposed pipeline improvement in undisturbed soil; the pipeline will have no visual impacts to the scenic vista.

P2391: Pump Station Perdue WTP would be constructed immediately west of the Sweetwater Reservoir, adjacent to the existing Robert A. Perdue WTP. The pump station would be constructed near the water treatment plant, within OWD facility property. The new pump station would visually blend in with the existing water treatment plant, which viewers in the area have already grown accustomed to as part of the landscape. Therefore, no visual impacts to this scenic vista would occur.

McGinty Mountain

McGinty Mountain is a small mountain located in the northeast portion of the planning area (Figure 4.8-2 of the PEIR). The top of the peak has an elevation of 2,135 feet AMSL.

P2256: PS 978-2 would be located approximately 1.5 miles northwest of the base of McGinty Mountain, which contains several hills ranging in elevation from 600 feet AMSL to 800 feet AMSL running along both sides of the Sweetwater River valley. P2256 would be located at the site of the existing 803-3 Reservoir, on a small hill with an approximate elevation of 700 feet AMSL. Due to the placement of P2256 on a hilltop, this project may be visible to some viewers from various angles in the surrounding area. Since this pump station would be next to an existing reservoir and at a much lower elevation than McGinty Mountain, and due to the large intervening distance and topography between the pump station and McGinty Mountain, implementation of P2256 would not impact this scenic vista.

P2379: This project would expand pump station 832-1 in undeveloped terrain that will have minimal effects on the scenic vista, due to the nature of the construction of the pump station.

Pipelines P2053, P2188, P2195, P2196, P2197, P2198, P2586, and P2587 would be built underground and therefore will have no impact on scenic vistas.

Upper and Lower Otay Reservoirs

The Upper and Lower Otay reservoirs are located approximately 8 miles east of Chula Vista and 20 miles southeast of San Diego, just outside the central portion of the planning area (Figure 4.8-2 of the PEIR). When at capacity, Upper Otay Reservoir holds 20 surface acres of water, and Lower Otay Reservoir has 1,100 surface acres, a maximum water depth of 137.5 feet, and 25 shoreline miles. Due to their size and accessibility, these reservoirs are used by Olympic trainers, recreational fishermen, bicyclists and members of the community.

P2037: Construction of reservoir 980-3 located at the southwestern base of the Jamul Mountains, approximately one mile northeast of Upper and Lower Otay reservoirs. P2037 would be located on a lower hilltop within the mountain range. Because the orientation of the views from this reservoir would be towards the north, away from the Upper and Lower Otay reservoirs, implementation of P2037 would not impact this scenic vista.

Under the 2015 WFMP Update, the Lower Otay Pump Station would be adjacent to the southwest of the San Diego Otay Water Treatment Plant (OWTP), which is located at the southern tip of Lower Otay Reservoir, and the following three CIP projects would be located between 1.0 and 1.5 miles southeast of the Lower Otay Reservoir, within the western foothills of Otay Mountain: Pump station P2083 (PS 870-2), P2392, and P2579. Storage project P2228 (Res 870-2) is also within the vicinity of southeast Lower Otay Reservoir. The pump station would be constructed at a lower elevation and down-gradient from the OWTP and Lower Otay Reservoir; therefore, this CIP project would not impact this scenic vista. Due to the large distance and intervening topography that exists between the Lower Otay Reservoir and P2083, P2392, P2579, these CIP projects would also not impact this scenic vista.

Poggi Canyon and Rock Mountain

Poggi Canyon and Rock Mountain are located in the City of Chula Vista within the southwest portion of the planning area, and north of Otay River Valley (Figure 4.8-2 of the PEIR). The nearest above-ground CIP project to Poggi Canyon and Rock Mountain scenic resources would be located approximately three miles to the southeast (P2482). Due to the large distances from these natural features, this CIP project would not impact Poggi Canyon or Rock Mountain scenic vistas.

Otay River Valley

Otay River Valley traverses the southwest portion of the planning area extending from the Lower Otay Reservoir. The nearest CIP projects to the river valley would be P2579 Temporary Lower Otay PS Rehabilitation and P2392 Lower Otay PS Replacement and Expansion (adjacent to the City of San Diego

OWTP at the southern tip of Lower Otay Reservoir) located about one-half mile to the northeast. Reservoir P2228 and P2374 (PS 870-2) (adjacent to the Richard J. Donovan State Correctional Facility and East Mesa Detention Facility within San Diego County) are located about one mile to the southeast. Both projects would be constructed at higher elevations above the river valley. In addition, a ridgeline with an elevation of 400 feet AMSL runs between the river valley and the P2374 (PS 870-2) project site at approximately 350 feet AMSL) Due to the large distances from the natural features and intervening topography, these CIP projects would not impact this scenic vista.

Portions of P2589 and P2451 pipelines would be built in underdeveloped grassland and scrub territory, but will have no effect on the scenic vista as they will be built and installed underground.

Threshold 2: Substantially degrade the existing visual character or quality of the project sites and their surroundings

Implementation of the 2015 WFMP Update would result in temporary and permanent visual impacts. Temporary visual impacts would occur from construction of CIP projects, primarily through the removal or alteration of existing vegetation. Construction of CIP projects would involve the disturbance of ground cover, grading, excavation, material stockpiles, and the presence of construction equipment, all of which would temporarily degrade the pre-existing visual character at the CIP construction site and its surroundings. However, these impacts are temporary, and implementation of Aes-PDF-1 would ensure that all disturbed areas of the construction site remaining after completion of construction would either be hydroseeded (pipelines in naturally vegetated settings), revegetated (reservoirs and pump stations in naturally vegetated settings), or landscaped (reservoirs, pump stations, and groundwater wells in urban settings). All vegetated areas would be irrigated to ensure successful plant establishment. Therefore, implementation of Aes-PDF-1 would reduce visual impacts associated with CIP construction activities under the 2015 WFMP Update to a less than significant level.

The above-ground CIP projects (i.e., reservoirs, pump stations, and groundwater wells) would result in varying degrees of long-term, permanent visual impacts, as discussed below. The CIP pipeline projects, would not result in long-term, permanent visual impacts, as they would be placed underground.

Reservoir Projects

Reservoirs are typically the most visible of the CIP projects because the function of these facilities require them to be located at higher elevations, often on hillsides, hilltops, or ridges. The visual impacts of CIP reservoir projects would vary depending on the visibility of the project site; the degree of landform alteration required; the size, color and prominence of the reservoir; and the remaining existing vegetation or landscaping. Depending on the individual site characteristics, some of the CIP reservoir projects may be partially buried or located completely underground. In undeveloped areas, the steel or concrete material of the new reservoir can substantially alter the visual character of the existing natural setting. Table 4.8-2 lists the CIP reservoir projects that would occur in undeveloped areas.

Reservoir projects may also feature fencing and/or other above-ground appurtenances. Of the CIP projects listed in Table 4.8-1 of the PEIR, P2431 (Res 980-4) will occur adjacent to existing reservoir facilities; therefore, the visual impacts of these projects may be lessened as viewers are already familiar with the existing structures within the natural landscape. P2040 (Res 1655-1) would be visible to existing and future residents of Rancho Jamul Estates. P2142 (Res 1296-4) would be visible to existing residents within the Whispering Meadows neighborhood approximately one-half mile to the north, and P2431 (Res 980-4) would be visible to future residents of the planned Rolling Hills Ranch (refer to “Village 13” in Figure 3-2 of this PEIR), which would contain residential, commercial and other uses, as designated by the Chula Vista *Major Project and Redevelopment Areas* map (Chula Vista 2002). Due to the view orientation of

drivers along Otay Lakes Road, P2431 would not impact the views of these motorists because, once constructed, the reservoir would blend into the overall landscape from the viewpoint of motorists who would tend to focus on the roadway. In addition, implementation of OWD's standard requirements for landscaping and using natural color palettes for building materials (Aes-PDF-1) would ensure that the appearance of the proposed reservoirs, though visible, would not substantially degrade the existing visual character of the project sites and their surroundings.

Pump Station Projects

Similar to the CIP reservoir projects evaluated above, visual impacts associated with pump station projects would vary depending on the visibility of the project site, the degree of landform alteration required, the size of the pump station, and the remaining existing vegetation or landscaping. 2015 WFMP Update CIP pump station projects that would be constructed in undeveloped regions are discussed individually below.

P2002: As discussed in Section 4.8.3.1 of the PEIR, the exact location of PS 1296-2 along the unpaved Proctor Valley Road is not known; however, for purposes of this analysis, it is assumed PS 1296-2 would be situated at the location shown on Figure 4.8-2. In addition, with implementation of Aes-PDF-1, all disturbed areas of the construction site remaining after completion of construction would be revegetated and irrigated to ensure successful plant establishment. Because the surrounding area is undeveloped, and there are no reasonably foreseeable plans for development in this area, PS 1296-2 would not result in a significant visual impact.

P2248: PS 944-2 is a pump station expansion located in the north portion of the Regulatory System, within an undeveloped area. The expansion of this pump station will be to upgrade an existing pump station, therefore the impacts to the existing visual character will be minimal. Disturbed soil areas around the proposed pump station upgrade will be revegetated and irrigated for successful plant reestablishment. There will be no substantial visual impacts.

P2256: PS 978-2 is a pump station that would be located at the site of the existing (P2500) 803-3 Reservoir adjacent to the Sycuan Golf Resort, within an undeveloped area. The addition of this new pump station would be consistent with existing uses of the site, and would not represent a stark contrast in the landscape as viewed from visitors to the golf resort. In addition, with implementation of Aes-PDF-1, all disturbed areas of the construction site remaining after completion of construction would be revegetated and irrigated to ensure successful plant establishment. Therefore, PS 978-2 would not result in a significant visual impact.

P2379: PS 832-1 is a pump station upgrade located about 2 miles northeast of Sweetwater Reservoir in the Regulatory System region, within an undeveloped area. The expansion of this pump station will be to upgrade an existing pump station, therefore the impacts to the existing visual character will be minimal. Disturbed soil areas around the proposed pump station upgrade will be revegetated and irrigated for successful plant reestablishment. There will be no substantial visual impacts.

P2391: This pump station would be constructed directly west of the Sweetwater Reservoir, adjacent to the existing Robert A. Perdue WTP. The areas surrounding the proposed pump station and the water treatment facility are undeveloped. The new pump station would be consistent in appearance and scale with the existing reservoir and treatment plant and would therefore not result in a substantial alteration of the existing visual character.

P2585: PS 1200-2 is a new pump station that would be constructed a half mile directly north of Sweetwater Reservoir in an undeveloped scrub vegetated area. With implementation of Aes-PDF-1, disturbed construction areas would be revegetated and irrigated for successful plant reestablishment. PS 1200-2 would not result in a significant visual impact.

Water Supply Projects

Of the four water supply projects, two projects have the potential to create visual impacts to the surrounding areas, which are discussed below.

P2434: The Rancho Del Rey groundwater well would involve constructing a water treatment system to accompany an existing well located within Chula Vista, near the intersection of Rancho Del Rey Parkway and Terra Nova Drive. The treatment facility would be constructed within the existing site boundary. The site is located within a residential neighborhood and directly adjacent to a childcare facility. In addition, off-site sewer and water lines would be necessary to serve the project. With implementation of Aes-PDF-1, the new treatment facility would be visually screened with landscaping that is compatible with existing vegetation. Therefore, the Rancho Del Rey groundwater well would not result in a significant visual impact.

P2482: The Otay Mesa Lot 7 groundwater well development project would involve constructing a water treatment system to accompany an existing well located in Otay Mesa and the installation of a distribution pipeline at the project site. The existing well is located within an industrial area, and the proposed water treatment facility would be consistent with existing uses of the site, and would be visually consistent with the land uses surrounding the site. Therefore, the Otay Mesa Lot 7 well would not result in a significant visual impact.

Threshold 3: Create a new source of substantial light or glare that would adversely affect day or nighttime views in the immediate vicinity of the CIP projects

It is anticipated that any nighttime lighting associated with reservoirs, pump stations and groundwater wells would be limited to emergency lighting that would typically be activated only in emergency situations, such as the repair of a leak that occurs at night. Therefore, none of the above-ground CIP projects under the 2015 WFMP Update are expected to create a new source of substantial nighttime lighting that would adversely affect nighttime views.

Potential impacts from glare would primarily occur from the sunlight reflecting from the reservoir, pump station or groundwater well building surfaces. Daytime views that could be subject to the effects of new sources of glare would include the following residential, institutional and recreational areas (in the vicinity of the identified CIP projects): Rancho Jamul Estates (P2040), Whispering Meadows neighborhood (P2142), Richard J. Donovan State Correctional Facility (P2228), and Sycuan Golf Resort (P2500). However, with implementation of Aes-PDF-1, low-reflective paint and glass would be used, reducing impacts from glare to less than significant levels.

E. Mitigation/Performance Measures

No mitigation required.

F. Residual Impacts after Mitigation

No residual impacts would remain after implementation of the Aes-PDF-1 listed above.

7.9 Land Use and Planning

A. Standards of Significance

Thresholds used to evaluate potential land use impacts are based on applicable criteria in the State CEQA Guidelines (CCR §§15000-15387), Appendix G. A significant land use impact would occur if the CIP projects proposed under the 2015 WFMP Update would conflict with any applicable Habitat Conservation Plan (HCP) or Natural Communities Conservation Plan (NCCP).

B. Impacts

Threshold 1: Conflict with any applicable HCP/NCCP

Implementation of LU-PDF-1 through LU-PDF-3, Noi-PDF-1, and mitigation measure Bio-1C would reduce potential indirect impacts to biological resources in and adjacent to the MSCP reserves, and potential conflicts with these HCPs/NCCPs, to below a level of significance.

C. Findings

The OWD Board of Directors finds that implementation of the 2015 WFMP Update would not:

- physically divide an established community; or
- conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Therefore, no mitigation/performance measures are required.

Pursuant to State CEQA Guidelines §15091(a)(1), changes or alterations have been required in, or incorporated into, the CIP projects proposed under the 2015 WFMP Update which avoid or substantially lessen the potential for:

- conflicts with applicable HCPs/NCCPs; and
- cumulatively considerable contributions to significant cumulative land use and planning impacts considering past, present, and probable future projects (see Section 5.5 of the PEIR for cumulative impact discussion).

D. Explanation

Threshold 1: Conflict with any applicable HCP/NCCP

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following PDFs to reduce potential impacts associated with conflicts with HCPs or NCCPs.

LU-PDF-1 The design of CIP reservoirs, pump stations and water supply projects located within and adjacent to the "Conserved (Subject to Agreement with Wildlife Agencies)" areas under the County of San Diego MSCP (refer to Figure 4.2-2 of this PEIR) will incorporate the following guidelines:

i. Plant materials used for landscaping will consist of native species similar/compatible with the adjacent habitat, and those species should be based on plants with genetic materials of the area.

ii. Fencing will be installed along the reserve boundary to prevent uncontrolled human access.

iii. Lighting within 100 feet of reserve boundary will be confined to areas necessary for public safety.

LU-PDF-2 The design of CIP reservoirs, pump stations, and water supply projects located within and adjacent to the "Hardline Preserve" and "Pre-Approved Mitigation" areas under the City of San Diego MSCP (refer to Figure 4.2-2 of this PEIR) will incorporate the following guidelines:

i. Drainage will be directed away from the reserves so as to avoid the release of toxins, chemicals, and petroleum products in storm water runoff that might degrade or harm the natural environment or ecosystem processes.

ii. Barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) will be installed along the reserve boundary to prevent uncontrolled human access.

iii. Plant materials used for landscaping will consist of native species similar/compatible with the adjacent habitat, and those species should be based on plants with genetic materials of the area.

iv. Lighting of all developed areas adjacent to the reserves shall be directed away from the preserve wherever possible.

v. Manufactured slopes associated with site development shall be included within the development footprint for projects within or adjacent to the reserve.

LU-PDF-3 The design of CIP reservoirs, groundwater wells, pump stations, and water supply projects located within and adjacent to the "Conserved" areas under the City of Chula Vista MSCP (refer to Figure 4.2-2 of this PEIR) will incorporate the following guidelines:

i. Through the use of detention basins, drainage will not be discharged directly into the reserves so as to avoid the release of toxins, chemicals, and petroleum products in storm water runoff that might degrade or harm the natural environment or ecosystem processes.

ii. Plant materials used for landscaping will consist of native species that reflect the adjacent native habitat, and non-native plant species will not be introduced into landscaped areas adjacent to the reserves.

iii. Barriers (fencing, rock/boulders, vegetation) and/or signage will be installed to direct public access to appropriate locations.

iv. Lighting of all developed areas adjacent to the reserves shall be directed away from the preserve wherever possible.

As described in Section 4.9.1.1 of the PEIR, P2002 would be located within the Jamul Mountain Ecological Reserve under the County of San Diego MSCP. In addition, the following CIP projects under the 2015 WFMP Update would be located within or adjacent to the MSCP preserves identified in Figure 4.2-2 of this PEIR: P2379, P2248, P2412, P2411, P2202, P2393, P2431, P2142, P2576, P2002, P2037, P2579, P2392, and 2228. In addition, lands to the west of LOPS are designated "Conserved (Subject to Agreement with Wildlife Agencies)" in the Chula Vista MSCP Subarea Plan. These "Conserved" areas are included within the Otay-Sweetwater Unit of the San Diego NWR and the OVRP Concept Plan. However, implementation of LU-PDF-1 through LU-PDF-3, Noi-PDF-1, and mitigation measure Bio-1C would incorporate the

respective land use adjacency guidelines of the County of San Diego, City of Chula Vista, City of San Diego MSCP Subarea Plans, including but not limited to, landscaping with native plants indigenous to the area; fencing or other barriers to prevent uncontrolled human access; installation of drainage features to prevent discharge of storm water runoff pollutants; installation of acoustical louvers in pump station buildings to reduce operational noise levels; and temporary noise walls or berms to reduce construction noise levels. Although the LOPS project site is not located within the Chula Vista MSCP Subarea Plan, it would nevertheless be considered a "conditionally compatible use" under the plan, and would therefore not preclude habitat preservation or recreational uses identified within adjacent areas of the San Diego NWR or OVRP. Therefore, implementation of LU-PDF-1 through LU-PDF-3, Noi-PDF-1, and mitigation measure Bio-1C would reduce potential indirect impacts to biological resources in and adjacent to the MSCP reserves, and potential conflicts with these HCPs/NCCPs, to below a level of significance.

E. Mitigation/Performance Measures

Implementation of LU-PDF-1 through LU-PDF-3, Noi-PDF-1, and mitigation measure Bio-1C would reduce potential indirect impacts to biological resources in adjacent MSCP reserves, and potential conflicts with applicable HCPs and NCCPs resulting from construction, development and long-term operations of CIP projects under the 2015 WFMP Update to a less than significant level; therefore, no mitigation is required.

F. Residual Impacts after Mitigation

No residual impacts would remain after implementation of the PDFs, SCPs, and mitigation/ performance measures listed above.

7.10 Noise

A. Standards of Significance

Thresholds used to evaluate potential noise and vibration impacts are based on applicable criteria in the State CEQA Guidelines (CCR §§15000-15387), Appendix G, and the applicable County of San Diego, City of San Diego, and City of Chula Vista noise standards and regulations. A significant noise and/or vibration impact would occur if the CIP projects proposed under the 2015 WFMP Update would result in:

1. Exposure of persons to, or generation of, noise levels in excess of standards established in applicable plans or noise ordinances, or applicable standards of other agencies; or otherwise result in a substantial permanent increase in ambient noise levels in the CIP project vicinity above levels existing without the project.
2. Exposure of persons to, or generation of, noise levels in excess of standards established in applicable plans or noise ordinances, or applicable standards of other agencies; or otherwise result in a substantial temporary or periodic increase in ambient noise levels in the CIP project vicinity above levels existing without the project.
3. Exposure of persons to, or generation of, excessive groundborne vibration equal to, or in excess of, 0.2 in/sec Peak Particle Velocity (PPV). Construction activities within 200 feet and pile driving within 600 feet would be potentially disruptive to vibration-sensitive operations.

B. Impacts

Threshold 1: Substantial permanent increase in ambient noise levels or expose persons to noise in excess of standards

Implementation of the 2015 WFMP Update would not result in permanent increases in ambient noise associated with transportation noise sources or storage project, pump station project, or pipeline project operation.

Threshold 2: Substantial temporary or periodic increase in ambient noise levels in the project vicinity

Implementation of Noi-SCP-1 and Noi-SCP-2 would ensure that noise from construction activity would remain within the limits established by applicable jurisdictions, and temporary noise impacts would be less than significant.

Threshold 3: Expose persons to or generate excessive groundborne vibration or groundborne noise levels

Compliance with the OWD Standard Specifications for Explosives and Blasting (Section 02200), as specified in Noi-SCP-2 would reduce impacts associated with groundborne vibration due to blasting activities to a less than significant level.

C. Findings

The OWD Board of Directors finds that implementation of the 2015 WFMP Update would not expose people residing or working in the planning area to excessive noise levels resulting from aircraft. Therefore, no mitigation/performance measures are required.

Pursuant to State CEQA Guidelines §15091(a)(1), changes or alterations have been required in, or incorporated into, the CIP projects proposed under the 2015 WFMP Update which avoid or substantially lessen the potential for:

- substantial permanent increases in ambient noise levels;
- substantial temporary or periodic increases in ambient noise levels;
- excessive groundborne vibration equal to, or in excess of, 0.2 in/sec PPV
- cumulatively considerable contributions to significant cumulative noise and vibration impacts considering past, present, and probable future projects (see Section 5.5 of the PEIR for cumulative impact discussion).

D. Explanation

Threshold 1: Substantial permanent increase in ambient noise levels or expose persons to noise in excess of standards

Implementation of the 2015 WFMP Update would include the following PDF to reduce potential impacts associated with permanent increases in ambient noise.

Noi-PDF-1 CIP pump station and well development projects located adjacent to residential land uses shall place pumps, emergency generators, and any other motorized equipment within a masonry enclosure that minimizes interior noise. For any vents included in the enclosure, the construction contractor shall use materials specified within the OWD Standard Specifications for Louvers and Vents (Section 10200).

Prior to operation, the noise levels from stationary motorized equipment (including emergency generators) shall be measured to ensure that the following standards are not exceeded:

i. CIP Projects located within the San Diego County shall not exceed a one-hour exterior noise limit of 50 dBA at the property line during daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.).

ii. CIP Projects located within the city of San Diego shall not exceed a one-hour exterior noise limit of 50 dBA at the property line during daytime hours (7:00 a.m. to 7:00 p.m.), 45 dBA during evening hours (7:00 pm to 10:00 p.m.), and 40 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.).

iii. CIP Projects located within the city of Chula Vista shall not exceed a one-hour exterior noise limit of 55 dBA at the property line during daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.).

Transportation Noise Sources

Transportation noise sources for the CIP projects would be primarily associated with vehicular trips by employees. However, as addressed in Chapter 4.12 (Transportation/Traffic) of the PEIR, operation of CIP projects proposed under the 2015 WFMP Update would not generate a significant volume of new vehicle trips. The maintenance for most of the CIP projects may require approximately one visit per day by OWD employees. CIP projects located within the Regulatory potable water operating system (see Figure 3-2 of the PEIR) may require as many as 5-10 trips per day. Due to the minimal number and the geographic distribution of vehicular trips associated with the maintenance of the CIP projects, audible transportation noise increases in comparison to existing conditions would be negligible. Therefore, implementation of the 2015 WFMP Update would not result in permanent increases in ambient noise associated with transportation noise sources.

Operational Noise Sources

Operational noise sources associated with the 2015 WFMP Update could potentially affect nearby residences. The operational noise levels would vary depending on the type of CIP project, as described below.

Storage Projects. The CIP water storage projects located near residential land uses are identified in Table 4.10-1 of the PEIR. Nine CIP water storage projects would be constructed within the OWD planning area. Once installed, these reservoirs would be passive facilities, and would not require the use of pumps, motors, or other noise-generating machinery. Therefore, operation of these facilities would not result in permanent increases in the ambient noise environment and no operational noise impact would occur.

Pump Station Projects. Pump stations are likely to generate noise that may be audible beyond the facility site due to the motors that are used to pump the water. During normal operation, pump stations are powered by electric motors; during emergencies, diesel engine generators are used. The 2015 WFMP Update proposes construction of potable pump stations CIPs; some pump station CIPs entail upgrades or expansions to existing pump stations, others propose new pump stations (see Table 3-2 of the PEIR). The 2015 WFMP Update also proposes recycled water CIP pump station projects (see Table 3-4 of the PEIR). Emergency generators would only generate noise when the equipment is tested, approximately once per month, or in the event of an emergency.

Operational noise generated from pump station motors may generate noise levels that exceed those established within the local jurisdiction that may affect nearby NSLU (primarily residences). CIP pump

station projects located adjacent to residential land uses are identified in Table 4.10-2 of the PEIR. However, it is typical for pump stations to be placed within a masonry enclosure, which insulate pump stations and attenuate operational noise. In addition, noise generated from the periodic testing of the emergency power generators would temporarily increase ambient exterior noise levels. OWD tests emergency generators approximately once a month for approximately 30 minutes during normal working hours. Although OWD has never received complaints from nearby residents about noise produced from normal operations or emergency tests at pump stations, the implementation of Noi-PDF-1 would ensure that for pump stations that are located adjacent to residential land uses, any stationary noise-generating mechanical equipment (including emergency generators) would be enclosed within a masonry structure, and that the exterior noise levels from the equipment does not exceed the exterior noise level limits for residential land uses for the applicable jurisdictions within which the projects are located.

Pipeline Projects. CIP pipeline projects would be constructed under pre-existing roadways or concurrently with proposed roadways. Similar to storage projects, pipelines are passive facilities. Once installed, pipelines would not require the use of pumps, motors, or other noise-generating machinery. Therefore, operation of these facilities would not result in permanent increases in the ambient noise environment that may affect surrounding NSLU and no operational noise impact would occur.

Threshold 2: Substantial temporary or periodic increase in ambient noise levels in the project vicinity

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCPs to reduce potential impacts associated with temporary increases in ambient noise.

Noi-SCP-1 Construction activities shall comply with applicable local noise ordinances and regulations specifying sound control, including the County of San Diego, City of San Diego, and the City of Chula Vista. Measures to reduce construction/demolition noise to the maximum extent feasible shall be included in contractor specifications and shall include, but not be limited to, the following:

i. Construction activity shall be restricted to the hours specified within each respective Municipal Code, depending on the location of the specific CIP project, as follows:

- Construction activity for CIP projects located within San Diego County and the city of San Diego shall occur between hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday; construction shall be prohibited on Sundays and holidays.
- Construction activity for CIP projects located within Chula Vista shall occur between hours of 7:00 a.m. to 10:00 p.m., Monday through Friday, and between the hours of 8:00 a.m. to 10:00 p.m., Saturday and Sunday.

ii. Construction noise for projects located within San Diego County and the city of San Diego shall not exceed an average sound level of 75 dBA for an eight-hour period at the project's property boundary.

iii. All construction equipment shall be properly outfitted and maintained with manufacturer-recommended noise-reduction devices.

Noi-SCP-2 For any construction activities which include blasting, the construction contractor shall implement the OWD Standard Specifications for Explosives and Blasting (Section 02200). Subject to these standard specifications, a qualified blasting consultant and geotechnical consultant shall prepare all required blasting plans and monitor all blasting activities. Prior to blasting, the contractor shall secure all permits required by law for blasting operations and

provide notification at least five work days in advance of blasting activities within 300 feet of a residence or commercial building. Monitoring of all blasting activities shall be in conformance with the Standards of the State of California, Department of Mines and in no case shall blasting intensities exceed the safety standards of PPV established by the U.S. Department of Mines.

Construction of CIP projects proposed under the 2015 WFMP Update would result in temporary increases in ambient noise levels. Construction activities associated with CIP projects would involve the use of heavy equipment during land clearing, demolition of structures, and construction phases of access roads. Equipment that would be associated with construction of the proposed CIP projects includes dozers, rollers, dewatering pumps, backhoes, loaders, delivery and haul trucks. The magnitude of the impact would depend on the type of construction activity, noise level generated by various pieces of construction equipment, duration of the construction phase, distance between the noise source and receiver, and any intervening topography. Sound levels of typical construction equipment range from 60 dBA to 90 dBA at 50 feet from the source (EPA 1971). Temporary construction noise impacts to NSLU would be reduced through implementation of Noi-SCP-1, which would ensure compliance with applicable local noise ordinances and regulations, including the County of San Diego, City of San Diego, and City of Chula Vista. Additional measures such as outfitting construction equipment with manufacturer-recommended noise-reduction features and locating generators and pumps at least 100 feet from the nearest NSLU would also minimize construction equipment noise.

Blasting and rock removal may be required for construction of certain CIP projects. The blasting procedure would include drilling a hole, filling the hole with explosive material, capping the hole, and detonating the material. Blasting is a short-term event, typically lasting no more than several seconds. Noise levels from rock drilling and blasting could exceed 90 dBA – 100 dBA at a distance of 50 feet. Temporary noise impacts associated with blasting activities would be reduced through implementation of Noi-SCP-2, which would ensure compliance with the OWD Standard Specifications for Explosives and Blasting (Section 02200). Subject to these standard specifications, a qualified blasting consultant and geotechnical consultant would prepare all required blasting plans and monitor all blasting activities. Prior to blasting, the contractor would secure all permits required by law for blasting operations and provide notification at least five work days in advance of blasting activities within 300 feet of a residence or commercial building. Monitoring of all blasting activities would be in conformance with the Standards of the State of California, Department of Mines and in no case would blasting intensities exceed the safety standards of PPV established by the U.S. Department of Mines.

At this time, many of the CIP projects under the 2015 WFMP Update are still in the design phase, and as such, information regarding the specific number and type of construction equipment required and the duration of construction activities is still unknown. Therefore, it is unknown whether or not construction emissions for the CIP projects (either individually or collectively) would exceed the noise levels limits established by applicable noise ordinances. However, implementation of Noi-SCP-1 and Noi-SCP-2 would ensure that noise from construction activity would remain within the limits established by applicable jurisdictions, and temporary noise impacts would be less than significant.

Threshold 3: Expose persons to or generate excessive groundborne vibration or groundborne noise levels

Vibration sources associated with implementation of the 2015 WFMP Update would be generated primarily from project construction. Once installed, the CIP project facilities include either passive uses (pipelines, reservoirs) or pump stations that would not generate substantial levels of vibration.

Construction-related vibration would have the potential to impact nearby structures and vibration-sensitive equipment and operations. The level of vibration generated from other construction activities would depend on the type of soils and the energy-generating capability of the construction equipment. According to Caltrans, the highest measured vibration level during highway construction was 2.88 in/sec PPV at 10 feet from a pavement breaker. Other typical construction activities and equipment, such as dozers, earthmovers, and trucks have not exceeded 0.10 in/sec PPV at 10 feet. Vibration sensitive instruments and operations may require special consideration during construction. Vibration criteria for sensitive equipment and operations are not defined and are often case specific. In general, the criteria must be determined based on manufacturer specifications and recommendations by the equipment user. As a guide, major construction activity within 200 feet and pile driving within 600 feet may be potentially disruptive to sensitive operations (Caltrans 2002). Although no vibration-sensitive uses have been identified within 200 feet of the proposed CIP projects, construction of certain CIP projects may include blasting, which would have the potential to generate excessive groundborne vibration that may affect nearby vibration-sensitive uses. Compliance with the OWD Standard Specifications for Explosives and Blasting (Section 02200), as specified in Noi-SCP-2 would reduce impacts associated with groundborne vibration due to blasting activities to a less than significant level.

E. Mitigation/Performance Measures

No mitigation is required.

F. Residual Impacts after Mitigation

No residual impacts would remain after implementation of the PDFs, SCPs, and mitigation/ performance measures listed above.

7.11 Public Safety

A. Standards of Significance

Thresholds used to evaluate potential public safety impacts are based on applicable criteria in the State CEQA Guidelines (CCR §§15000-15387), Appendix G. A significant public safety impact would occur if the CIP projects proposed under the 2015 WFMP Update would:

1. Create a hazard to the public or the environment through the transport, use, or disposal of hazardous materials; through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment; or through hazardous emissions within one-quarter mile of an existing or proposed school.
2. Result in activities located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
3. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.
4. Result in a cumulatively considerable contribution to significant cumulative public safety impacts considering past, present, and probable future projects.
5. Result in a safety hazard for people residing or working within two miles of a public airport or within the vicinity of a private airstrip.
6. Expose CIP structures to a significant risk of loss involving wildland fires.

B. Impacts

Threshold 1: Result in a significant hazard to the public or the environment through the transport, use or disposal of hazardous materials; through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment; or through hazardous emissions within one-quarter mile of an existing or proposed school

Implementation of Haz-SCP-1 would reduce hazards to the public or the environment through the transport, storage, use, or disposal of hazardous materials during CIP construction activities, and associated accidental releases of hazardous materials into the environment and near schools, to a less than significant level. Implementation of Haz-PDF-1 and Haz PDF-2 would reduce hazards to the public or the environment through the routine transport, storage, use, or disposal of hazardous materials during CIP operations, and associated accidental releases of hazardous materials into the environment and near schools, to a less than significant level.

Threshold 2: Result in activities located on a listed hazardous materials site, creating a significant hazard to the public or environment

CIP construction activities could be located on or near listed hazardous materials sites resulting in a significant hazard to the public or the environment; therefore, mitigation/ performance measures are required (see below).

Threshold 3: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan

Threshold 3: implementation of Haz-SCP-2 would reduce public safety hazards associated with temporary, construction-related lane and road closures or detours and their potential impairment or interference with adopted emergency response and evacuation plans to a less than significant level.

C. Findings

The OWD Board of Directors finds that implementation of the 2015 WFMP Update would not:

- result in a safety hazard for people residing or working within two miles of a public airport or within the vicinity of a private airstrip; or
- expose CIP structures to a significant risk of loss involving wildland fires.

Therefore, no mitigation/performance measures are required.

Pursuant to State CEQA Guidelines §15091(a)(1), changes or alterations have been required in, or incorporated into, the CIP projects proposed under the 2015 WFMP Update which avoid or substantially lessen the potential for:

- hazards to the public or the environment through transportation, use, and disposal of hazardous materials and associated accidental releases of hazardous materials into the environment and near schools;
- hazards to the public or the environment due to activities located on a site which is included on a list of hazardous materials sites;
- impairment or interference with adopted emergency response and evacuation plans; and
- cumulatively considerable contributions to significant cumulative public safety impacts considering past, present, and probable future projects (see Section 5.5 of the PEIR for cumulative impact discussion).

D. Explanation

Threshold 1: Result in a significant hazard to the public or the environment through the transport, use or disposal of hazardous materials; through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment; or through hazardous emissions within one-quarter mile of an existing or proposed school

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCP and PDF to reduce potential impacts associated with potential exposure to hazardous materials.

Haz-SCP-1 Prior to construction of CIP projects, the construction contractor will prepare and submit a HMBP to OWD. The procedures in the HMBP will comply with USDOT (Office of Hazardous Materials Safety) as it pertains to the transportation, storage, use, and disposal of hazardous materials and CHP regulations for the transportation of hazardous materials along state highways.

Haz-PDF-1 OWD will continue to prepare and implement a post-construction HMBP for long-term operations at CIP reservoirs, pump stations and groundwater wells involving the transportation, storage, use, and disposal of hazardous materials. The procedures in the HMBP will comply with USDOT (Office of Hazardous Materials Safety) and CHP regulations for the transportation of hazardous materials along state highways.

Haz-PDF-2 OWD will continue to prepare and implement SPCC plans for long-term operations at CIP pump stations that store fuel on site and meet the criteria of requiring an SPCC plan. The procedures in the SPCC will comply with US EPA's regulations for stored fuel and oils to prevent any discharge of oil into or upon navigable waters of the United States or ad-joining shorelines.

Construction of CIPs under the 2015 WFMP Update would continue to involve a limited amount of hazardous materials, such as diesel fuel, oils, paints, and solvents. However, the construction contractor is required to implement a HMBP to allow for the transportation, storage, use, and disposal of hazardous materials during CIP construction activities. In addition, the County DEH Health Hazardous Incident Response Team (HIRT) would respond to hazardous materials incidents (including identification, evaluation and mitigation of threats to local populations and the environment) within the County's jurisdiction and is also contracted to respond to hazardous materials incidents within the City of Chula Vista's jurisdiction. The Hazardous Materials (HazMat) team of the City of San Diego Fire-Rescue Department would respond to toxic chemical spills within the city's jurisdiction. This team utilizes specific training and equipment to handle such challenges that arise with toxic chemical spills and resulting emergency situations. Therefore, implementation of Haz-SCP-1 would reduce hazards to the public or the environment through the transport, storage, use, or disposal of hazardous materials during CIP construction activities, and associated accidental releases of hazardous materials into the environment and near schools, to a less than significant level.

Long-term operations at some CIP reservoirs, pump stations, and groundwater wells under the 2015 WFMP Update may involve a limited amount of hazardous materials, such as chlorine gas, sodium hypochlorite, and aqueous ammonia for water disinfecting purposes. However, OWD is required to implement a post-construction HMBP to allow for the transportation, storage, use, and disposal of hazardous materials for CIP reservoir, pump station, and groundwater well operations. Therefore, implementation of Haz-PDF-1 and Haz PDF-2 would reduce hazards to the public or the environment through the routine transport, storage, use, or disposal of hazardous materials during CIP operations, and associated accidental releases of hazardous materials into the environment and near schools, to a less than significant level.

Threshold 2: Result in activities located on a listed hazardous materials site, creating a significant hazard to the public or environment

The potential exists for CIP sites to have been contaminated by hazardous substances as a result of former uses of the sites, leaks from unidentified USTs, or unidentified buried debris that could contain hazardous substances or hazardous by-products. The potential risk associated with past contamination was not quantified for the various CIP sites as part of this PEIR. Therefore, CIP construction activities could be located on or near listed hazardous materials sites resulting in a significant hazard to the public or the environment.

Threshold 3: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan

Implementation of the 2015 WFMP Update would include, but would not be limited to, the following SCP to reduce potential impacts associated with emergency response and evacuation plans.

Haz-SCP-2 In the event that CIP construction activities would require a lane or roadway closure, or could otherwise substantially interfere with traffic circulation, the contractor will obtain a Traffic Control Permit from the local land use agency and/or state agencies such as Caltrans, prior to construction as necessary, and implement a traffic control plan to ensure that adequate emergency access and egress is maintained and that traffic will move efficiently and safely in and around the construction site. The traffic control plan may include, but not be limited to, the following measures:

i. Install traffic control signs, cones, flags, flares, lights, and temporary traffic signals in compliance with the requirements of local jurisdictions, and relocate them as the work progresses to maintain effective traffic control.

ii. Provide trained and equipped flag persons to regulate traffic flow when construction activities encroach onto traffic lanes.

iii. Control parking for construction equipment and worker vehicles to prevent interference with public and private parking spaces, access by emergency vehicles, and owner's operations.

iv. Traffic control equipment, devices, and post settings will be removed when no longer required. Any damage caused by equipment installation will be repaired.

v. For CIP construction activities near schools, the contractor will coordinate with schools prior to commencement of construction activity to minimize potential disruption of traffic flows during school day peak traffic periods.

E. Mitigation/Performance Measures

Implementation of the following measure would reduce potential impacts associated with listed hazardous materials sites to a less than significant level. This is considered both a mitigation and performance measure since the same measure is required for near-term and long-term projects.

Haz-2A As part of geotechnical investigations conducted prior to ground-disturbing activities for CIPs (refer to the SCPs listed in Section 4.5, Geology, Soils and Paleontology, of this PEIR), a database search of hazardous materials sites shall be performed within a one-mile radius surrounding the CIP site pursuant to Government Code Section 65962.5. In the event such sites are identified within the search parameters, OWD shall retain a registered environmental assessor to prepare a Remediation Plan for any contaminated

soils or groundwater encountered within the construction area. The Remediation Plan shall be incorporated into the construction documents. If contamination is encountered during ground-disturbing activities, the on-site construction supervisor shall redirect work away from the location of the contamination and shall notify OWD, County DEH and RWQCB. The contamination remediation and removal activities shall be conducted in accordance with the Remediation Plan and pertinent regulatory guidelines, under the oversight of the appropriate regulatory agency.

F. Residual Impacts after Mitigation

No residual impacts would remain after implementation of the PDFs, SCPs, and mitigation/ performance measures listed above.

7.12 Transportation and Traffic

A. Standards of Significance

Thresholds used to evaluate potential traffic/circulation impacts are based on applicable criteria in State CEQA Guidelines (CCR §§15000-15387), Appendix G. A significant traffic/circulation impact would occur if the CIP projects proposed under the 2015 WFMP Update would:

1. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections.
2. Exceed either individually or cumulatively, a Level of Service (LOS) standard for designated roads or highways.
3. Result in inadequate emergency access.
4. Result in inadequate parking capacity.
5. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).
6. Result in a change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks.
7. Substantially increase traffic hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

B. Impacts

Thresholds 1 & 2 – Circulation System Performance and Level of Service Standards

The development of the proposed CIP projects under the 2015 WFMP Update would generate a minor amount of daily construction-related trips from trucks hauling soil and/or demolition materials from the proposed project construction sites; trucks delivering equipment and materials to/from the construction sites; and construction workers driving to/from the construction sites. These localized increases in construction traffic would be temporary. Operation of CIP projects proposed under the 2015 WFMP Update would not generate a significant volume of new vehicle trips.

C. Findings

The OWD Board of Directors finds that implementation of the 2015 WFMP Update would not:

- cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system;
- exceed either individually or cumulatively, a LOS standard for designated roads or highways;
- result in inadequate emergency access;
- result in inadequate parking capacity;
- conflict with adopted policies, plans, or programs supporting alternative transportation;
- change air traffic patterns resulting in substantial safety risks; or
- substantially increase traffic hazards due to a design feature or incompatible uses.

Therefore, no mitigation/performance measures are required.

Pursuant to State CEQA Guidelines §15091(a)(1), no changes or alterations are required for transportation and traffic.

D. Explanation

Thresholds 1 & 2 – Circulation System Performance and Level of Service Standards

The development of the proposed CIP projects under the 2015 WFMP Update would generate a minor amount of daily construction-related trips from trucks hauling soil and/or demolition materials from the proposed project construction sites; trucks delivering equipment and materials to/from the construction sites; and construction workers driving to/from the construction sites. These localized increases in construction traffic would be temporary. This construction traffic would be a temporary increase to infrequently used locations which should not impact the traffic of localized commuters. Construction would take place throughout the planning area so that even if multiple CIP construction projects are underway simultaneously, construction would not be concentrated in one area.

Traffic associated with operation of the CIP projects would be primarily from employee commutes and maintenance activities. However, operation of CIP projects proposed under the 2015 WFMP Update would not generate a significant volume of new vehicle trips. The maintenance for most of the CIP projects may require approximately one visit per day by OWD employees. CIP projects located within the regulatory potable water operating system (see Figure 3-2 of the PEIR) may require as many as 5-10 trips per day. Such incremental increases in vehicle trips would not be substantial in relation to the existing traffic load and capacity of intersections, street segments and freeways within the planning area.

E. Mitigation/Performance Measures

As discussed above, construction-related traffic and employee commutes would increase total trips by an incremental amount, but well below any noticeable level; therefore, impacts related to traffic and LOS standards would be less than significant. No mitigation is required.

F. Residual Impacts after Mitigation

No residual impacts would remain after implementation of the PDFs, SCPs, and mitigation/ performance measures listed above.

7.13 Growth Inducement

As required by CEQA Guidelines Section 15126.2(d), an EIR must include a discussion of the ways in which a proposed project could directly or indirectly foster economic development or population growth, and

how that growth would affect the surrounding environment. Growth can be induced in a number of ways, including the elimination of obstacles to growth, or through the stimulation of economic activity within the region. The discussion of the "removal of obstacles to growth" relates directly to the removal of infrastructure limitations or regulatory constraints that could result in growth unforeseen at the time of project approval. According to CEQA Guidelines Section 15126.2(d), "it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment." The CEQA Guidelines require a discussion of growth inducement, but not speculation as to when, where and what form growth may occur, as such speculation does not provide the reader with accurate or useful information about the project's potential effects.

Future growth rates and associated water demands within the planning area were estimated within the 2015 WFMP Update to identify the CIPs that would be needed to serve OWD customers. As discussed in Chapter 4 (Cumulative Impacts and Mitigation) of this PEIR, data on future growth were obtained from SANDAG, the City of Chula Vista, and recent forecasts developed by OWD. The following sections discuss these data sources, the growth rates estimated for the planning area, and how this data relates to direct and indirect growth inducement with regards to implementation of the 2015 WFMP Update.

San Diego Association of Governments

SANDAG is a regional planning agency comprised of 18 representatives from city and county governments within the San Diego area. SANDAG is the regional authority for the creation of planning, transportation, and growth forecast documents. The growth projections in the 2015 WFMP Update are based partly on SANDAG's 2050 Regional Growth Forecast (RGF) (Regional Transportation Plan 2050, Technical Appendix 2). The 2050 RGF provides a long-range forecast of population, housing, and employment that are used as a basic resource by elected officials, planners, academics, and the general public, and as the basis for the 2050 RTP. As such, the planning horizon for both the RGF and the 2015 WFMP Update is the year 2050.

With the exception of the portion of the planning area within Chula Vista, the 2015 WFMP Update utilized land use data from SANDAG as a basis for estimating and predicting future land use types and associated water consumption. As various land uses have different water requirements, these land use estimations were used to predict and size capacities for CIPs under the 2015 WFMP Update.

City of Chula Vista

The southern portion of the planning area is within the jurisdiction of the City of Chula Vista. Between the time frame of the 2009 WRMP and the present 2015 WFMP Update, Chula Vista has grown by nearly 2,000 new residential units (Atkins 2016). As such, future capacity and water consumption requirements within the portion of the planning area encompassed by Chula Vista were estimated by utilizing residential growth forecasts for the years 2015 through 2020 (Chula Vista 2015). In addition, the 2015 WFMP Update utilized information within Sub Area Master Plans (SAMPs), Specific/Sectional Plan Areas (SPAs), and the Otay Ranch General Development Plan (GDP) for specific development areas throughout Chula Vista.

OWD Forecasts

Estimated future capacity needs within the planning area were also calculated by utilizing OWD's known water consumption data from water meters. This data was applied to land use predictions obtained from SANDAG and the City of Chula Vista to estimate future water consumption within undeveloped portions of the planning area.

Direct and Indirect Growth-Inducing Effects

Implementation of the 2015 WFMP Update would not directly create or induce growth within the planning area because OWD has no land use authority and cannot approve land development. As stated in Section 6.3 above, indirect growth may result from the removal of physical impediments or restrictions to growth, as well as the removal of planning impediments resulting from land use plans and policies. In this context, physical growth impediments may include nonexistent or inadequate access to an area or the lack of essential public services (e.g., sewer service), while planning impediments may include restrictive zoning and/or general plan designations.

Many of the CIPs under the 2015 WFMP Update would be constructed at sites that contain existing OWD facilities; therefore, these projects would not result in indirect growth effects. The construction of new CIP facilities within undeveloped areas would be phased commensurate with planned growth; therefore, these projects would also not result in indirect growth effects because the timing of implementation is intended to serve the water delivery needs of specified planned developments as they are approved. In other words, none of the CIPs under the 2015 WFMP Update would be developed in anticipation of unforeseen or unplanned future growth. Therefore, implementation of the 2015 WFMP Update would not be growth-inducing because it would not remove an impediment to growth.

Furthermore, construction of CIPs under the 2015 WFMP Update may generate new jobs throughout the planning area, but this additional economic activity would be incremental compared to the economic growth of the greater San Diego region. Therefore, implementation of the 2015 WFMP Update would not be growth-inducing because it would not foster substantial economic expansion or growth in the region.

7.14 CEQA Checklist Items Not Applicable to the 2015 WFMP Update

The following four topics were not analyzed in Chapter 4 of this PEIR because they are not applicable to the 2015 WFMP Update: population and housing, public services, recreation, and utilities and service systems. The rationale for these findings are explained below.

Population and Housing

Implementation of the 2015 WFMP Update would not directly induce substantial growth, or displace substantial numbers of existing housing or people, otherwise necessitating the construction of new or replacement housing elsewhere. Key Project facilities identified in the 2015 WFMP would be developed in stages corresponding to planned population growth and development within the OWD service area. OWD does not approve or dictate how growth occurs. Therefore, there would be no impact to population housing, and no further analysis is required. The potential for the 2015 WFMP Update to induce substantial population growth, either directly or indirectly, is discussed in more detail in Section 6.3 below.

Public Services

Implementation of the 2015 WFMP Update would not result in impacts associated with maintaining acceptable service ratios, response times or other performance objectives for fire protection services, police protection services, schools, parks, or any other public facilities. Each respective planning jurisdiction's General Plan within OWD's service area provides a policy framework for providing public services. The policies address maintaining and improving necessary response times, maintaining a sufficient number of police officers and firefighters per capita, maintaining adequate amounts and types of equipment to provide necessary levels of service, maintaining and constructing adequate new firefighting infrastructure, incorporating public safety in design of structures and services, maintaining sufficient levels of fireflow, and coordinating development with planning for fire services, etc. As such, implementation of the 2015 WFMP Update would not require provision of new or physically altered fire

protection, police protection, school, and park facilities, the construction of which could cause significant environmental impacts. Therefore, there would be no impact to public services, and no further analysis is required.

Recreation

Implementation of the 2015 WFMP Update would not impact the use of parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated, nor would it include require the construction or expansion of recreational facilities which may have an adverse physical effect on the environment. Therefore, there would be no impact to recreational facilities, and no further analysis is required.

Utilities and Service Systems

Implementation of the 2015 WFMP Update would not require increased capacity for wastewater treatment or sewer conveyance facilities or require or result in the construction or expansion of new wastewater treatment facilities, and therefore would not exceed wastewater treatment requirements of the San Diego RWQCB. Implementation of the 2015 WFMP Update would require construction of new, and expansion of existing, OWD water facilities, the environmental effects of which are addressed in this PEIR. The 2015 WFMP Update would require the construction of limited storm water drainage facilities at new CIP reservoir and pump station sites (refer to Section 4.7.3.3, Hydrology and Water Quality, of this PEIR for discussion of required drainage basins and brow ditches). However, any required storm water drainage facilities have been included in the overall disturbance footprints for the new CIP reservoirs and pump stations, for which the corresponding environmental effects have been thoroughly addressed within this PEIR.

As stated in Section 3.4.1 (Purpose, Project Description) of this PEIR, the primary purpose of the 2015 WFMP Update is to ensure an adequate, reliable, flexible, and cost effective potable and recycled water storage and delivery system commensurate with growth within the planning area and adjacent areas of influence, consistent with SANDAG forecasts, through 2050. Because the 2015 WFMP Update would be in response to projected growth in the region (refer to Section 6.3 below), it would not result in the need for new or expanded water supplies. Rather, the evaluation of water supply capacity is typically conducted by lead agencies and water districts as part of the required CEQA approvals for new development or redevelopment projects that would require additional water supplies to serve those projects.

As discussed in Section 4.11 (Public Safety) of this PEIR, all demolition debris and construction waste associated with construction of CIPs under the 2015 WFMP Update would be properly handled and disposed of, in accordance with federal, state and local statutes and regulations related to solid waste. Moreover, the long-term operations of CIP reservoirs and pump stations under the 2015 WFMP Update would not generate solid waste that would impact the permitted capacity of area landfills.

8.0 Alternatives

Where a lead agency has determined that, even with the adoption of all feasible mitigation measures, a proposed project would still cause one or more significant environmental impacts that cannot be substantially lessened or avoided, the agency, prior to approving the project as mitigated, must first determine whether, with respect to such impacts, there remain any project alternatives that are both environmentally superior and feasible within the meaning of CEQA. An alternative may be “infeasible” if it fails to fully promote the lead agency’s underlying goals and objectives with respect to the project. Thus, “‘feasibility’ under CEQA encompasses ‘desirability’ to the extent that desirability is based on a reasonable

balancing of the relevant economic, environmental, social, and technological factors" of a project (*City of Del Mar, supra*, 133 Cal.App.3rd at p. 417; see also *Sequoyah Hills, supra*, 23 CalApp.4th at p. 715).

Thus, OWD can fully satisfy its CEQA obligations by determining whether any alternatives identified in the Final PEIR are both feasible and environmentally superior with respect to the significant impacts of the 2015 WFMP Update (*Laurel Hills, supra*, 83 Cal.App.3d at pp. 519-527; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 730-731; *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376, 400-403). The alternatives addressed in the Final PEIR are summarized below.

No Project Alternative

Section 15126.6(e) of the CEQA Guidelines requires the No Project Alternative to be addressed in an EIR. Under this alternative, the OWD Board of Directors would not adopt the 2015 WFMP Update.

Impact Analysis. The No Project Alternative would not necessarily prevent the implementation of the CIP projects listed in the 2015 WFMP Update. Without the 2015 WFMP Update, these projects could still be constructed on an individual basis. The potential environmental impacts associated with implementation of the CIP projects identified in this PEIR would still occur. Under the No Project Alternative, impacts associated with individual CIP projects might not be reduced to less than significant levels with implementation of the various PDFs, SCPs, and mitigation/performance measures identified in this PEIR.

Ability to Accomplish Project Objectives. The No Project Alternative would not meet any of the four objectives identified for the 2015 WFMP Update. Under this alternative, OWD would not be able map out the District's facilities needs and would not be able to identify adaptive responses to changed conditions. This would hinder OWD's ability to meet the future water demands of the planning area. In addition, this alternative would deny OWD the opportunity to streamline the environmental review of future projects with this PEIR and subsequent tiered CEQA documents.

Reduced Footprint Alternative

The Reduced Footprint Alternative would reduce the size and capacity of several CIP projects located within sensitive biological resources. Refer to Tables 4.2-6, 4.2-7, and 4.2-8 in Section 4.2.3.1 of the PEIR for CIPs that are proposed to occur within areas containing these sensitive resources.

Impact Analysis. The Reduced Footprint Alternative may result in incrementally reduced impacts to biological resources, in comparison to the proposed CIP projects. However, biological impacts in undeveloped areas could still occur due to the presence of development and construction activities, and may not directly correlate to the development footprint. For example, decreasing the capacity of a CIP water storage project by a certain percentage would still result in clearing, grading, and other initial land disturbances. Temporary impacts to air quality may incrementally decrease with this alternative, as it may take less time to construct smaller projects. Impacts to cultural resources may also be lessened due to the reduced development footprints of CIP projects. In general, the Reduced Footprint Alternative may result in less environmental impacts in comparison to the proposed CIP projects, but probably not to a substantial degree.

Ability to Accomplish Project Objectives. The Reduced Footprint Alterative would fully meet three out of four objectives identified for the 2015 WFMP Update, in addition to reducing potential impacts to air quality and biological and cultural resources. This alternative would not meet the following objective of the 2015 WFMP Update because the reduced sizes of some of the proposed and planned CIP facilities may not fully satisfy the water demands of the entire planning area and identified area of influence: Update the District's Capital Improvement Program and Identify Adaptive Responses to Changed Conditions.

OWD is required to fulfill state, regional, and local polices which mandate the development of alternative water sources. The CIP projects listed in the 2015 WFMP Update are designed to meet the water demands of the planning area and identified area of influence based upon development patterns, types, location and timing. With the reduced CIP projects, additional facilities (pump stations, reservoirs and groundwater wells) may be needed in other locations to meet the water supply demands. This could result in increased impacts to air quality, cultural resources, energy consumption, landform alteration, water quality, and noise.

Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) requires that an EIR identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. The No Project Alternative would avoid all potentially significant environmental impacts identified for the 2015 WFMP Update. However, this alternative would not preclude implementation of some, if not all, of the CIP projects on an individual basis. In addition, this alternative would not meet any of the objectives of the 2015 WFMP Update.

CEQA Guidelines Section 15126.6(e)(2) also requires that an EIR identify another alternative as environmentally superior, besides the No Project Alternative. In this case, the next environmentally superior alternative would be the Reduced Footprint Alternative, which would reduce, but not eliminate, potential impacts to air quality, biological, and cultural resources. However, this alternative would not achieve all four of the stated objectives (Section 3.4.2 Project Description, and Section 6.1 Project Objectives of the PEIR) of the 2015 WFMP Update.

OTAY WATER DISTRICT

2015 Water Facilities Master Plan Update

Final Program Environmental Impact Report Mitigation Monitoring and Reporting Program

SCH No. 2015061091

November 2016

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INTRODUCTION

The California Environmental Quality Act (CEQA) requires that public agencies adopting EIRs ("Lead Agencies") take affirmative steps to determine that project design features (PDFs), standard construction practices (SCPs) and approved mitigation/performance measures are implemented subsequent to project approval. The Lead Agency must adopt a reporting and monitoring program for the PDFs, SCPs and mitigation/performance measures incorporated into a project or included as conditions of approval. The program must be designed to ensure compliance with the EIR during project implementation (Public Resources Code §20181.6; CEQA Guidelines §15074(d)).

This Mitigation Monitoring and Reporting Program (MMRP) will be used by the Otay Water District (OWD) as Lead Agency to ensure compliance with the PDFs, SCPs and mitigation/performance measures identified in the Final Program Environmental Impact Report (PEIR) for the 2015 Water Facilities Master Plan (WFMP) Update. Implementation of these PDFs, SCPs and mitigation/performance measures will reduce significant impacts to air quality; biological resources; cultural resources; energy; geology, soils, and paleontology; global climate change; hydrology and water quality; landform alteration and visual aesthetics; land use and planning; noise; and public safety.

This MMRP consists of a checklist (Table 1) that identifies the PDFs, SCPs and mitigation/performance measures by resource; the person(s) responsible for verifying implementation; the timing of verification (prior to, during or after construction); and the parties responsible for implementation. Space is provided for sign-off following completion/implementation of the PDFs, SCPs and mitigation/performance measures.

Table 1. Mitigation Monitoring and Reporting Program for the 2015 WFMP Update PEIR

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
Air Quality				
Air-SCP-1	During grading and site preparation activities, the On-site Construction Supervisor will supervise the following activities to reduce fugitive dust emissions: i. Exposed soil areas shall be watered as necessary (at least twice per day) to prevent dust emissions. During windy days or when fugitive dust can be observed leaving construction sites, additional applications of water shall be required. Under windy conditions where wind velocities are forecast to exceed 25 miles per hour, all ground disturbing activities shall be halted until the winds are forecast to be less than 25 miles per hour. ii. Where visible soil material is carried onto adjacent public paved roads, the paved roads shall be swept or washed down at the end of the day to avoid vehicles from pulverizing the dirt into fine particles. iii. Trucks transporting materials to and from the site shall allow for at least two feet of freeboard (i.e., minimum vertical distance between the top of the load and the top of the trailer). Alternatively, trucks transporting materials shall be covered.	On-site Construction Supervisor and/or Contractor/OWD	Before/During Construction	
Air-SCP-2	All construction equipment utilized for the construction of proposed CIP projects shall be maintained, tuned, and operated in accordance with all relevant SDAPCD, ARB, and EPA standards.	On-site Construction Supervisor and/or Contractor/OWD	Before/During Construction	
Mitigation Measure Air-1	An air quality technical study shall be prepared for each CIP once the project reaches the design stage to determine whether potential air pollutant emissions associated with construction activities are less than the screening thresholds established by the SDAPCD. The air quality technical study shall include an air pollutant emissions inventory for the CIP under design, as well as emissions for all other designed CIPs that would undertake construction within the same timeframe. All recommendations and measures identified in the air quality technical study to ensure that air pollutant emissions remain within established thresholds shall be incorporated by the Otay Water District prior to any groundbreaking activities associated with the project.	OWD/Engineering Design	Before Construction	
Biological Resources				
Bio-SCP-1	After completion of final grading for CIPs located adjacent to native vegetation, the construction documents will require that all graded areas within 100 feet of native vegetation are hydroseeded and/or planted with native plant species similar in composition to the adjacent undisturbed vegetation communities. OWD or the construction contractor will retain a qualified biologist to monitor these activities to ensure non-native or invasive plant species are not used in the hydroseed mix or planting palettes. The hydroseeded/planted areas will be watered via a temporary drip	Landscape Contractor/ Biologist	Before Construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
	irrigation system or watering truck. Irrigation will cease at some time after successful plant establishment and growth, to be determined by the biologist. No fertilizers or pesticides will be used in the hydroseeded/planted areas. Any irrigation runoff from hydroseeded/planted areas will be directed away from adjacent native vegetation communities, and contained and/or treated within the development footprint of individual projects. All planting stock will be inspected for exotic invertebrate pests (e.g., argentine ants) and any stock found to be infested with such pests will not be allowed to be used in the hydroseeded/planted areas.			
Performance Measure Bio-1A	During the design phase, OWD shall retain a qualified biologist to conduct biological surveys as part of the "tiered" CEQA documentation for these projects, following the program described in Section 1.2 (Intended Use and Purpose) of this PEIR.	OWD/Biologist	Before Construction	
Mitigation Measure Bio-1B	If the biological surveys identified in performance measure Bio-1A determine the presence of special-status species and/or sensitive or critical habitats on or adjacent to the CIP site, then OWD shall map and quantify the impacts in a Biological Technical Report as part of the "tiered" CEQA documentation referenced in Bio-1A. Detailed project-specific avoidance and mitigation measures for significant impacts to biological resources shall be negotiated between OWD and the regulatory agencies, as part of the approval and certification process for the subsequent CEQA documentation. In addition, the following measures shall be implemented, as applicable: Six (6) weeks prior to vegetation clearing, grading and/or construction activities that are scheduled to occur between February 15 and August 30, a qualified biologist shall commence focused surveys in accordance with USFWS protocols to determine the presence or absence of the California gnatcatcher. Documentation of the survey results shall be provided to OWD and USFWS within 45 days of completing the final survey, as required pursuant to FESA Section 10(a)(1)(A). If the survey results are negative, then no further mitigation for California gnatcatcher is necessary and vegetation clearing can occur at any time in the year following the survey; only mitigation for the habitat loss shall be required (refer to Bio-1B(iv) below). If surveyed habitat is determined to be occupied by California gnatcatcher, then the following measures shall be implemented:	OWD/Biologist	Before Construction	
Mitigation Measure Bio-1B	Coastal sage scrub/gnatcatcher habitat shall not be removed during the gnatcatcher breeding season (February 15 through August 30). Work that has commenced prior to the breeding season shall be allowed to continue without interruption. If gnatcatchers move into an area within 500 feet of ongoing construction noise levels and attempt to nest, then it can be deduced that the noise is not great enough to discourage gnatcatcher nesting activities. If work begins prior to the breeding season, the contractor(s) should maintain continuous construction activities adjacent to coastal sage scrub that falls within 500 feet, until the work is completed. However, if clearing,	OWD/Biologist	Before Construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
	grading and/or construction activities are scheduled to begin *during* the gnatcatcher breeding season, then updated pre-construction surveys are necessary as defined above. In addition, if these activities are initiated prior to, and extend into, the breeding season, but they cease for any period of time and the contractor wishes to restart work within the breeding season window, then updated pre-construction surveys are also necessary. If these surveys indicate no nesting birds occur within the coastal sage scrub that falls within 500 feet of the proposed work, then the adjacent construction activities shall be allowed to commence. However, if the birds are observed nesting within these areas, then the adjacent construction activities shall be postponed until all nesting has ceased.			
Mitigation Measure Bio-1B	Noise monitoring shall be conducted if construction activities are scheduled during the gnatcatcher breeding season; if the construction-related noise levels would exceed 60 dB L_{eq} (i.e., the noise threshold suggested by the USFWS for indirect impacts to gnatcatcher); and if gnatcatchers are found within 500 feet of the noise source. Noise monitoring shall be conducted by a biologist experienced in both the vocalization and appearance of California gnatcatcher, and in the use of noise meters. Construction activities that generate noise levels over 60 dB L_{eq} may be permitted within 300 feet of occupied habitat if methods are employed that reduce the noise levels to below 60 dB L_{eq} at the boundary of occupied habitat (e.g., temporary noise attenuation barriers or use of alternative equipment). During construction activities, daily testing of noise levels shall be conducted by a noise monitor with the help of the biologist to ensure that a noise level of 60 dB L_{eq} at the boundary of occupied habitat is not exceeded. Documentation of the noise monitoring results shall be provided to OWD and USFWS within 45 days of completing the final noise monitoring event.	OWD/Biologist/Noise monitor	During Construction	
Mitigation Measure Bio-1B	If the biological surveys identified in performance measure Bio-1A determine the presence of special-status species and/or sensitive or critical habitats on or adjacent to the CIP site, then the following measures shall be implemented, as applicable: Ten (10) days prior to vegetation clearing, grading and/or construction activities that are scheduled to occur between February 1 and August 15, surveys for nesting bird species other than the California gnatcatcher, including those protected by the MBTA, shall be conducted by a qualified biologist following applicable USFWS and/or CDFW guidelines. If no active avian nests are identified within the disturbance limits, then no further mitigation is necessary. However, if active nests for avian species of concern are found within the disturbance limits, then species-specific measures prescribed by the MBTA shall be implemented by a qualified biologist. Documentation of the mitigation measures shall be provided to OWD and USFWS within 10 days after implementation.	OWD/Biologist	Before Construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
Mitigation Measure Bio-1B	If the biological surveys identified in performance measure Bio-1A determine the presence of special-status species and/or sensitive or critical habitats on or adjacent to the CIP project site, then the following measures shall be implemented, as applicable: Ten (10) days prior to vegetation clearing, grading and/or construction activities that are scheduled to occur during the raptor nesting season (generally January 15 through July 31), and where suitable trees (such as *Eucalyptus* spp.) for raptor nesting occur within 500 feet of such activities, pre-construction surveys for raptor nests shall be performed by a qualified biologist. If no occupied raptor nests are identified in suitable trees on or within 500 feet of the construction site, then no further mitigation is necessary. Construction activities within 500 feet of occupied nests shall not be allowed during the raptor breeding season until a qualified biologist determines that the nests are no longer active. Documentation of the raptor surveys and any follow-up monitoring, as necessary, shall be provided to OWD and USFWS within 10 days of completing the final survey or monitoring event.	OWD/Biologist	Before Construction	
Performance Measure Bio-1B	If the biological surveys identified in performance measure Bio-1A determine the presence of special-status species and/or sensitive or critical habitats on or adjacent to the CIP project site, then the following measures shall be implemented, as applicable: For CIPs that would affect non-listed sensitive species and sensitive vegetation communities, the measures listed below shall be implemented prior to vegetation clearing, grading and/or construction activities. In addition, applicable regulatory agency permits and/or authorizations shall be obtained for CIPs that would affect federal and state-listed species, and the conditions of such permits and/or authorizations shall be implemented prior to vegetation clearing, grading and/or construction activities.	OWD/Biologist	Before Construction	
Mitigation Measure Bio-1B	Special-status species (and any corresponding USFWS-designated critical habitats), sensitive vegetation communities and MSCP resources shall be avoided through project design or site selection, to the extent practicable.	Engineering Design/OWD	Before Construction	
Mitigation Measure Bio-1B	For unavoidable impacts to special-status species (and any corresponding USFWS-designated critical habitats), sensitive vegetation communities and MSCP resources, off-site mitigation shall be provided by one, or a combination of, the following measures, in consultation with the USFWS and CDFW: 1) Debit credits from the San Miguel HMA (Table 4.2-10 shows the status of the mitigation bank credits, as of the date of this Final PEIR); 2) Contribute to the preserve system of other agency MSCPs through land acquisition or purchase of mitigation banking credits; and 3) Enhance, restore, create, and preserve in perpetuity off-site habitat areas at locations and mitigation ratios to be approved by the appropriate regulatory agencies and in compliance with the mitigation ratios, guidelines, and standards required by the	OWD/Biologist, Landscape Architect, Restoration Ecologist, Landscape Contractor	Before, during & post construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
	applicable MSCP subarea plans. Typical mitigation ratios for direct impacts to sensitive vegetation types include 2:1 for coastal sage scrub; 3:1 for maritime succulent scrub; 3:1 for native grassland; 2:1 for oak woodlands; 3:1 for southern interior cypress forest; 3:1 for riparian woodlands/forests; 3:1 for coastal freshwater marsh; 2:1 for riparian scrubs (absent threatened or endangered species); 5:1 for San Diego mesa claypan vernal pools; 3:1 for Gabbroic chaparrals; and 0.5:1 for non-native grassland (absent threatened or endangered species). These ratios will be decreased or increased depending on whether the impacts and mitigation would occur inside or outside an MSCP preserve area. For example, these ratios are typically doubled if impacts occur within previously conserved lands. Plans for habitat enhancement, restoration and creation shall be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Such plans shall include, at a minimum: (a) location of the mitigation site(s); (b) plant species to be used, container sizes, and seeding rates; (c) schematic depicting the mitigation area(s); (d) planting schedule; (e) description of the irrigation methodology; (f) measures to control exotic vegetation at the mitigation site(s); (g) specific success criteria (e.g., percent cover of native and non-native species, species richness); (h) detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and preserving the mitigation site(s) in perpetuity (including conservation easements and management funding). In addition, OWD shall negotiate and implement long-term maintenance requirements to ensure the success of the mitigation site(s).			
Mitigation Measure Bio-1B	If federal permits or funding are required for CIPs (and listed species) that occur within USFWS-designated critical habitat, then Section 7 Consultations with the USFWS shall be initiated by the appropriate federal permitting agency.	OWD/Biologist	Before Construction	
Mitigation Measure Bio-1C	Prior to vegetation clearing, grading, and/or construction activities for CIPs that have the potential to impact sensitive vegetation communities or special-status species (and any corresponding USFWS-designated critical habitats), a qualified biologist shall attend a pre-construction meeting to inform construction crews of the sensitive species and habitats within and/or adjacent to these project sites.	OWD, On-site Construction Supervisor/ Biologist	Before Construction	
Mitigation Measure Bio-1D	Prior to vegetation clearing, grading, and/or construction activities, a qualified biologist shall oversee installation of appropriate temporary fencing and/or flagging to delineate the limits of construction and the approved construction staging areas for protection of identified sensitive resources outside the approved construction/staging zones: All construction access and circulation shall be limited to designated construction/staging zones. The fencing shall be checked weekly to ensure that fenced construction limits are not exceeded. This fencing shall be removed upon completion of construction activities. Construction staging areas shall be located a minimum of 100 feet from	On-site Construction Supervisor, Construction Contractor/Biologist	Before & during construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
	drainages, wetlands and areas supporting sensitive habitats or species. Fueling of equipment shall occur in designated fueling zones within the construction staging areas. All equipment used within the approved construction limits shall be maintained to minimize and control fluid and grease leaks. Provisions to contain and clean up unintentional fuel, oil, fluid and grease leaks/spills shall be in place prior to construction.			
Mitigation Measure Bio-1E	During vegetation clearing, grading, and/or construction, a qualified biologist shall monitor these activities: If sensitive species and/or habitats adjacent to these project sites are inadvertently impacted by these activities, then the biologist shall immediately inform the on-site construction supervisor who shall temporarily halt or redirect work away from the area of impact. OWD shall immediately be notified of the impact and shall consult with the appropriate regulatory agencies to determine the required mitigation, according to Bio-1B(iv)(b) and (c) above. The biologist shall also ensure that all construction night lighting adjacent to sensitive habitat areas is of low illumination, shielded, and directed downwards and away from these areas.	OWD, On-site Construction Supervisor, Construction Contractor/ Biologist	During construction	
Mitigation Measure Bio-1F	Construction equipment will be checked by the biological monitor prior to use each morning to ensure no sensitive wildlife species sheltered in or around any equipment left on site overnight.	Construction Contractor, On-site Construction Supervisor/Biological monitor	During construction	
Mitigation Measure Bio-1G	Trenches associated with pipe installation will be backfilled with earth at the end of each work day to prevent wildlife access, with the exception of the end of the open pipe, which will be left exposed. During installation, the area surrounding the end segment of exposed open pipe will be sloped at the end of each work day at an angle to allow wildlife to easily escape. Also, the open end of the exposed pipe will be covered at the end of each work day with a material flush with the open pipe entrance such as a wooden board or cap such that no wildlife, including smaller species like lizards, can enter the pipe. Should wildlife become trapped in the vicinity of the open exposed pipe, the qualified biologist(s) will remove and relocate the individual outside the construction zone.	On-site Construction Supervisor, Construction Contractor/Biological monitor	During construction	
Cultural Resources				
Cul-PDF-1	Approximately six months prior to demolition of P2584 (Reservoirs 657-1 and 657-2), OWD will retain a qualified architectural historian to conduct a historical building assessment. The architectural historian will record, on a California Department of Parks and Recreation (DPR) 523 form, or equivalent documentation, the potential historical resources, if any, that would be affected by this CIP project. The forms will be filed with the SCIC to receive Primary numbers and Trinomials. Should the analysis involved in completing the DPR 523 form indicate that a particular structure does not meet the	OWD/Architectural Historian	Before construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
	eligibility criteria for listing on the California Register of Historic Places, then no further research and documentation is necessary (a 6-week to 2-month process). If, however, the structure is determined to be a historical resource, then measure Cul-PDF-2 will be implemented. OWD will provide a copy of the historical building assessment and DPR 523 form to the San Diego County Archaeological Society (SDCAS).			
Cul-PDF-2	For each structure determined to be a historical resource according to measure Cul-PDF-1, the architectural historian will oversee the following documentation and treatment program: i. Prior to alteration, remodeling, renovation, relocation, and/or demolition of the historical resource, the architectural historian will document the structure, and associated landscaping and setting, via still and video photography (to be provided on a CD-ROM) and will prepare a written record in accordance with the standards of the Historic American Building Survey (HABS) or Historic American Engineering Record (HAER), including accurate scaled mapping, architectural descriptions, and scaled architectural plans (if available). The record will be accompanied by a report containing site-specific history and appropriate contextual information. This information will be gathered through site-specific and comparative archival research, and oral history collection as appropriate. ii. For historical resources that will be demolished, additional mitigation beyond HABS/HAER documentation may be necessary. The extent of mitigation will depend upon the importance of the historical resources to be demolished and will be determined in consultation with the State Office of Historic Preservation. Mitigation may include, but not be limited to, the preparation/dissemination of an informational brochure, interpretive displays about the history of the area, and website development and links to other historical buildings. iii. Within three months after completion of documentation and treatment of the affected historical resources, a copy of the photographic and written record and HABS/HAER report will be submitted to SCIC.	OWD/Architectural Historian	Before, during & after construction	
Performance Measure Cul-2A	Prior to initiation of any CIP project work, a review of records search data, a search of the Native American Heritage Commission's Sacred Lands Files, and an appropriate-level field survey shall be conducted by a qualified archaeologist to determine if any unrecorded archaeological sites are present. If archaeological resources are found, if feasible, the preferred course of action is that that archaeological resources be preserved in-situ. When avoidance of impacts is not possible, site evaluations and possible data recovery mitigation, as needed, shall be required for all resources. Any artifacts recovered during excavation, other than cultural material subject to repatriation, shall be curated with its associated records at a curation facility approved by OWD and a qualified archaeologist. Excavation of deposits shall be coordinated with	OWD/Archaeologist	Before & during construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
	and monitored by local Native American representatives. The results of the field survey shall be presented in an Archaeological Resources Management – formatted report and a copy of the report with all associated Department of Parks and Recreation site recordation forms be submitted to the South Coastal Information Center within one month of report finalization.			
Mitigation Measure Cul-2B	During the design phase, available data shall be reviewed by a qualified archaeologist on the depth of fill below existing roads in which pipelines would be installed. If such review indicates that native soils would not be disturbed by pipeline trenching activities, then cultural resources monitoring will not be required for those CIP projects, and this determination by a qualified archaeologist shall be documented by OWD in accordance with CEQA requirements. OWD will provide a copy of this CEQA documentation to the SDCAS. If it is determined that native soils would be disturbed by project activities, then a cultural resources monitoring program shall be implemented in accordance with measures Cul-2C through Cul-2D.	OWD/Archaeologist	Before & during construction	
Mitigation Measure Cul-2C	Prior to grading of CIP projects, OWD shall retain a qualified archaeologist to monitor all ground-disturbing activities in coordination with a Native American monitor (as applicable). Prior to beginning any work that requires cultural resources monitoring: i. A preconstruction meeting shall be held that includes the archaeologist, construction supervisor and/or grading contractor, and other appropriate personnel to go over the cultural resources monitoring program. ii. The archaeologist shall (at that meeting or subsequently) submit to the OWD a copy of the site/grading plan that identifies areas to be monitored. iii. The archaeologist shall coordinate with the construction supervisor and OWD on the construction schedule to identify when and where monitoring is to begin, including the start date for monitoring. iv. The archaeologist shall be present during grading/excavation and shall document such activity on a standardized form. A record of monitoring activity shall be submitted to OWD each month and at the end of monitoring.	OWD, On-site Construction Supervisor/ Archaeologist, Native American Monitor	Before & during construction	
Mitigation Measure Cul-2D	In the event archaeological resources are discovered during ground-disturbing activities, the on-site construction supervisor shall be notified and shall redirect work away from the location of the discovery to allow for preliminary evaluation of potentially significant archaeological resources. The OWD shall consult with the archaeologist to consider means of avoiding or reducing ground disturbance within the archaeological site boundaries, including minor modifications of project footprints, placement of protective fill, establishment of a preservation easement, or other means. If development cannot avoid ground disturbance within the archaeological site boundaries, then OWD shall implement the measures listed below.	OWD, On-site Construction Supervisor/ Archaeologist, Native American Monitor	During construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
	The construction supervisor shall be notified by the archaeologist when the discovered resources have been collected and removed from the site, at which time the construction supervisor shall direct work to continue in the location of the discovery. i. Prepare a research design, resource evaluation plan and, if necessary, an archaeological data recovery plan that will capture those categories of data for which the site is significant. The significance of the discovered resources shall be determined in consultation with the Native American representative, as appropriate. All archaeological work shall be conducted in the presence of a Native American monitor. ii. If, in the opinion of the qualified archaeologist and in light of the data available, the significance of the site is such that data recovery cannot capture the values that qualify the site for inclusion in the CRHR, then OWD shall reconsider project plans in light of the high value of the resource, and implement more substantial project modifications that would allow the site to be preserved intact, such as redesign, placement of fill, or relocation or abandonment. iii. Perform appropriate technical analyses, prepare a report and file it with the SCIC, and provide for the permanent curation of recovered resources, as follows: a. The archaeologist shall ensure that all significant cultural resources collected are cleaned, catalogued, and analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; that specialty studies are completed, as appropriate; and that a letter of acceptance from the curation institution has been submitted to OWD. b. Curation of artifacts shall be completed in consultation with the Native American representative, as applicable.	OWD, On-site Construction Supervisor/ Archaeologist, Native American Monitor	During construction	
Cul-SCP-1	The OWD will implement the provisions of California Health and Safety Code Section 7050.5 and PRC Section 5097.98 which establish procedures to be followed if Native American or other skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures.	OWD, On-site Construction Supervisor/ Archaeologist, Native American Monitor	During construction	
Energy				
Ene-PDF-1	CIP projects featuring electric pumps and motors will use high efficiency pumps and motors.	Engineering Design/OWD	Before construction	
Ene-PDF-2	All outdoor (security) lighting installed at the above-ground CIP facilities (i.e., storage reservoirs/tanks and pump stations) under the 2015 WFMP Update will use energy-efficient light emitting diodes, with motion sensor lighting controls to limit usage. Lighting adjacent to native vegetation communities will be of low illuminations, shielded, and directed downwards and away from these areas to avoid potential	On-site Construction Supervisor/ OWD, Construction Contractor	During construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
	effects to nocturnal wildlife from increased predation that would occur from "spill-over" of nighttime light levels into the adjacent habitats.			
Ene-PDF-3	The OWD will conduct annual pump efficiency tests at each CIP project featuring a pump and correct any decreases in efficiency through the repair or replacement of appropriate pump components.	OWD Maintenance Personnel/OWD Engineering	Post construction	
Ene-PDF-4	The OWD will employ soft starts and stops to all CIP project pumps and motors to reduce total electricity consumption during operation of pumps and motors.	Engineering Design/OWD	Before Construction	
Geology and Soils				
Geo-PDF-1	At the time of CIP project design, OWD will implement the relevant requirements of the 2013 UBC and CBC, as updated or amended, and the CDMG Special Publication 117.	OWD/Engineering Design	Before Construction	
Geo-SCP-1	Prior to construction of CIP projects, areas of liquefaction and/or landslides will be identified as part of site-specific geotechnical investigations. The investigations will specifically address foundation and slope stability in liquefiable and landslide areas proposed for construction.	OWD/Geologist	Before Construction	
Geo-SCP-1	Recommendations made in conjunction with the geotechnical investigations will be implemented during construction, including but not limited to the following actions: i. Over-excavate unsuitable materials and replace them with engineered fill. ii. For thinner deposits, remove loose, unconsolidated soils and replace with properly compacted fill soils, or apply other design stabilization features (i.e., excavation of overburden). iii. For thicker deposits, implement applicable techniques such as dynamic compaction (i.e., dropping heavy weights on the land surface), vibro-compaction (i.e., inserting a vibratory device into the liquefiable sand), vibro-replacement (i.e., replacing sand by drilling and then vibro-compacting backfill in the bore hole), or compaction piles (i.e., driving piles and densifying surrounding soil). iv. Lower the groundwater table to below the level of liquefiable soils. v. Perform in-situ densification of soils or other alterations to the ground characteristics. vi. For landslides, implement applicable techniques such as stabilization (i.e., construction of buttress fills, retaining walls, or other structural support to remediate the potential for instability of cut slopes composed of landslide debris); remedial grading and removal of landslide debris (e.g., over-excavation and recompaction); or avoidance (e.g., structural setbacks).	On-site Construction Supervisor/Grading Contractor	During Construction	
Geo-SCP-2	Prior to construction of CIP projects, areas of severely erodable soils will be identified as part of site-specific geotechnical investigations. The investigations will specifically address foundation and slope stability in erodable soils proposed for construction.	OWD/Geologist	Before Construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
Geo-SCP-2	Recommendations made in conjunction with the geotechnical investigations will be implemented during construction, including but not limited to the following actions: i. Minimize disturbance to existing vegetation and slopes. ii. Construct drainage control devices (e.g., storm drains, brow ditches, subdrains, etc.) to direct surface water runoff away from slopes and other graded areas. iii. Provide temporary hydroseeding of cleared vegetation and graded slopes as soon as possible following grading activities for areas that will remain in disturbed condition (but will not be subject to further construction activities) for a period greater than two weeks during the construction phase.	On-site Construction Supervisor/ Grading, Construction, Landscape Contractors	During Construction	
Geo-SCP-3	The construction bid documents for each CIP project will include either a 90 percent Erosion Control Plan (for projects that would result in less than one acre of land disturbance) or a 90 percent Storm Water Pollution Prevention Plan (SWPPP) (for projects that would result in one acre or greater of land disturbance). The Erosion Control Plan will comply with the storm water regulations or ordinances of the local agency jurisdiction within which the CIP project occurs, while the SWPPP will comply with the NPDES General Construction Permit. These plans will be based on site-specific hydraulic and hydrologic characteristics, and identify a range of BMPs to reduce impacts related to storm water runoff, including sedimentation BMPs to control soil erosion. The construction contractor will identify the specific storm water BMPs to be implemented during the construction phase of a given CIP project, and will prepare and implement the final Erosion Control Plan or SWPPP for that project. Typical BMPs to be implemented as part of the Erosion Control Plan or SWPPP may include, but may not be limited to, the actions listed below. For protection of finished graded areas and manufactured slopes, the construction contractor will implement OWD Standard Specifications for Slope Protection and Erosion Control (Section 02202).	On-site Construction Supervisor/ Construction Contractor	Before & during construction	
Geo-SCP-3	Implement a “weather triggered” action plan during the rainy season involving installation of enhanced erosion and sediment control measures prior to predicted storm events (i.e., 40 percent or greater chance of rain).	On-site Construction Supervisor/Construction Contractor	During Construction	
Geo-SCP-3	Use erosion control/stabilizing measures in cleared areas and on graded slopes of 3:1 (horizontal to vertical) gradient or steeper, such as geotextiles, mats, fiber rolls, soil binders, or temporary hydroseeding.	On-site Construction Supervisor/ Construction Contractor	During Construction	
Geo-SCP-3	Use sediment controls to protect the site perimeter and prevent off-site sediment transport, such as filtration devices (e.g., temporary inlet filters), silt fences, fiber rolls, gravel bags, temporary sediment basins, check dams, street sweeping, energy dissipaters, stabilized construction access points (e.g., temporary gravel or pavement) and sediment stockpiles (e.g., silt fences and tarps), and properly fitted covers for sediment transport vehicles.	On-site Construction Supervisor/ Construction Contractor	During Construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
Geo-SCP-3	Divert runoff from uphill areas around disturbed areas of the construction site.	On-site Construction Supervisor/ Construction Contractor	During Construction	
Geo-SCP-3	Protect storm drain inlets on-site or downstream of the construction site to eliminate entry of sediment.	On-site Construction Supervisor/ Construction Contractor	During Construction	
Geo-SCP-3	Store BMP materials in on-site areas to provide “standby” capacity adequate to provide complete protection of exposed areas and prevent off-site sediment transport.	On-site Construction Supervisor/ Construction Contractor	During Construction	
Geo-SCP-3	Train personnel responsible for BMP installation and maintenance.	On-site Construction Supervisor/ Construction Contractor	During Construction	
Geo-SCP-3	Implement solid waste management efforts such as proper containment and disposal of construction debris.	On-site Construction Supervisor/ Construction Contractor	During Construction	
Geo-SCP-3	Install permanent landscaping (or native vegetation in areas adjacent to natural habitats) and irrigation as soon as feasible after final grading or construction.	On-site Construction Supervisor/ Landscape Contractor/Restoration Ecologist	Post Construction	
Geo-SCP-3	Implement appropriate monitoring and maintenance efforts (e.g., prior to and after storm events) to ensure proper BMP function and efficiency.	On-site Construction Supervisor/ Construction Contractor	During Construction	
Geo-SCP-3	Implement sampling/analysis, monitoring/reporting and post-construction management programs per NPDES requirements.	On-site Construction Supervisor/ Construction Contractor	During Construction	
Geo-SCP-3	Implement additional BMPs as necessary (and as required by appropriate regulatory agencies) to ensure adequate erosion and sediment control.	On-site Construction Supervisor/Construction Contractor	During Construction	
Geo-SCP-4	Prior to construction of CIP projects, areas of geologic/soil instability will be identified as part of site-specific geotechnical investigations. The investigations will specifically address foundation and slope stability within unstable geologic units/soils proposed for construction.	OWD/Geologist	Before Construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
Geo-SCP-4	Recommendations made in conjunction with the geotechnical investigations will be implemented during construction, including but not limited to the following actions: i. Perform site-specific settlement analyses in areas deemed appropriate by the geotechnical engineer and evaluate the potential for groundwater-related subsidence. ii. Over-excavate unsuitable materials and replace them with engineered fill. iii. To minimize or avoid lateral spreading of on-site soils, remove compressible soils and replace them with properly compacted fill, perform compaction grouting or deep dynamic compaction, or use stiffened conventional foundation systems. iv. To minimize or avoid differential compression or settlement of on-site soils, manage oversized material (i.e., rocks greater than 12 inches) via off-site disposal, placement in non-structural fill, or crushing or pre-blasting to generate material less than 12 inches. Oversized material greater than 4 feet will not be used in fills, and will not be placed within 10 feet of finished grade, within 10 feet of manufactured slope faces (measured horizontally from the slope face), or within 3 feet of the deepest pipeline or other utilities. v. To minimize or avoid shrinking/swelling of on-site expansive soils, over-excavate for deeper fills (at least five feet below finished grade). vi. Locate foundations and larger pipelines outside of cut/fill transition zones and landscaped irrigation zones.	On-site Construction Supervisor/ Construction Contractor	During Construction	
Performance Measure Geo-5A	During the design phase for all CIP pipeline projects within the 2015 WFMP Update, available data shall be reviewed on the depth of fill below existing roads in which pipelines would be installed. If such review indicates that native soils would not be disturbed by pipeline trenching activities, then paleontological monitoring will not be required for those CIP projects, and this determination shall be documented by OWD in accordance with CEQA requirements. If it is determined that native soils would be disturbed by pipeline trenching activities, then a paleontological monitoring program shall be implemented in accordance with measures Geo-5B through Geo-5D.	OWD, On-site Construction Supervisor/Contractor	During Construction	
Mitigation Measure Geo-5B	Prior to grading for CIP projects, OWD shall retain a qualified paleontologist to monitor all ground-disturbing activities for all CIP projects described under Section 4.5.3.5 (Issue 5 Impact Analysis) of the PEIR. A record of monitoring activity shall be submitted to OWD each month and at the end of monitoring.	OWD/Paleontologist	Before Construction	
Mitigation Measure Geo-5C	In the event fossils are discovered during ground-disturbing activities, the on-site construction supervisor shall be notified and shall redirect work away from the location of the discovery, so that the fossils can be removed by the paleontologist for significance evaluations. The on-site construction supervisor shall be notified by the paleontologist when the fossils have been removed, at which time the construction supervisor shall direct work to continue in the location of the fossil discovery.	On-site Construction Supervisor/ Paleontologist	During Construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
Mitigation Measure Geo-5D	For fossils removed from the construction site in accordance with measure Geo-5C that are determined to be significant, the following measures shall be implemented: i. The paleontologist shall ensure that all significant fossils collected are cleaned, identified, catalogued, and permanently curated with an appropriate institution with a research interest in the materials; ii. The paleontologist shall ensure that specialty studies are completed, as appropriate, for any significant fossil collected; and iii. The paleontologist shall ensure that curation of fossils are completed in consultation with OWD. A letter of acceptance from the curation institution shall be submitted to OWD.	OWD/Paleontologist	During Construction	
Global Climate Change				
Air-SCP-3	During project construction activities, the CIP Project Construction Manager will supervise the following BMPs to reduce emissions associated with diesel equipment: i. Properly operate and maintain all diesel-powered vehicles and equipment. ii. Retrofit diesel-powered equipment with “after-treatment” products (e.g., diesel oxidation catalysts, diesel particulate filters). iii. Use electric or natural gas-powered construction equipment in lieu of gasoline or diesel-powered engines. iv. Turn off all diesel-powered vehicles and gasoline-powered equipment when not in use for more than five minutes. v. Support and encourage ridesharing and transit incentives for the construction crew. vi. Encourage the use of locally available building materials, such as concrete, stucco, and interior finishes. vii. Use light-colored or a high-albedo (reflectivity) concrete and asphalt paving materials with a Solar Reflectance Index of 29 or higher. viii. Establish a construction management plan with the local waste hauler that diverts a minimum of 50% of construction, demolition, and site clearing waste.	Contractor/On-site Construction Supervisor	During Construction	
GHG-1	Otay Water District will prepare annual construction activity estimates prior to undertaking the first construction activity of any year. The annual construction estimate shall demonstrate that the annual construction equipment use will be less than or equal to the activity shown in Table 4.6-4 of this PEIR.	OWD	Annually	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
Hydrology and Water Quality				
Hyd-SCP-1	In accordance with the Water Agencies' Standards, the construction contractor is required to implement a safety plan at each CIP construction site that would involve the transport, storage, use, and disposal of hazardous materials. Such plans will also specify storm water BMPs, to be consistent with those identified in Geo-SCP-3 (refer to Section 4.5, Geology, of this PEIR), to minimize downstream water quality degradation from runoff pollution associated with CIP construction activities.	OWD, On-site Construction Supervisor/ Construction Contractor	During Construction	
Hyd-PDF-1	For each CIP facility that would involve the transport, storage, use, and disposal of hazardous materials during project operation, OWD will implement a site-specific Hazardous Materials Business Plan (HMBP), including BMPs to prevent downstream water quality degradation from runoff pollution associated with CIP post-construction operations. In addition, OWD is required to obtain a permit from the County Department of Environmental Health (DEH) allowing for the use of specified hazardous substances during the CIP post-construction operation of these sites (refer to Section 4.11, Public Safety, of this PEIR). Typical BMPs to be implemented as part of the HMBP may include, but are not limited to, the actions listed below.	OWD, On-site Construction Supervisor, County DEH/ Construction Contractor, OWD Maintenance Personnel (long-term operations)	During & Post Construction	
Hyd-PDF-1	Minor chemical spills will be contained by absorbent, using trained employees in proper protective equipment, and waste will be placed in a properly labeled container for disposal.	OWD, On-site Construction Supervisor, County DEH/ Construction Contractor, OWD Maintenance Personnel (long-term operations)	During & Post Construction	
Hyd-PDF-1	For major chemical spills, employees will notify the local fire department. Prior to arrival by emergency responders, trained employees using proper protective equipment will attempt to contain the spill using absorbent, physical barriers, or other methods as specified in the HMBP, and prevent it from entering the storm drain and from discharging off-site as runoff.	OWD, On-site Construction Supervisor, County DEH, Local Fire Department/ Construction Contractor, OWD Maintenance Personnel (long-term operations)	During & Post Construction	
Hyd-PDF-2	At the time of CIP project design, the OWD will implement the relevant requirements of the 2013 UBC and CBC for all above-ground CIP projects (reservoirs, pump stations, and facilities for groundwater production wells), including the design of appropriately sized drainage facilities, where necessary, to capture runoff from each project site to reduce the risk of flooding.	OWD/Engineering Design	Before Construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
Landform Alteration and Visual Aesthetics				
Aes-PDF-1	In accordance with Water Agencies' Standards and standard operating procedures, the following design, landscaping and irrigation measures will be implemented for CIP projects: Reservoirs, pump station buildings, and groundwater wells will use appropriate building materials and color palettes that visually blend the structures in with their surroundings (natural and urban).	OWD/Engineering Design	Before Construction	
Aes-PDF-1	Reservoirs, pump station buildings, and groundwater wells will use low-reflective paint and glass.	OWD/Engineering Design	Before Construction	
Aes-PDF-1	For portions of pipeline projects installed in naturally vegetated areas, the disturbance footprints for the pipeline corridor and associated staging areas will be hydroseeded, following backfilling and recontouring, using a non-irrigated native plant mix consistent with original site conditions and surrounding vegetation.	Landscape Contractor/On-site Construction Supervisor	Post Construction	
Aes-PDF-1	For CIP reservoirs, pump stations, and groundwater wells in naturally vegetated settings, any disturbed unpaved areas following construction will be revegetated (hydroseeding and/or plantings) using native plant materials consistent with original site conditions and surrounding vegetation. A temporary irrigation system will be installed and maintained by OWD, or watering trucks shall be used at a frequency to be determined by OWD to maintain successful plant growth. Temporary irrigation will be discontinued upon OWD's determination that the landscaping has permanently established, without the need for supplemental watering.	Landscape Contractor/On-site Construction Supervisor	Post Construction	
Aes-PDF-1	For CIP reservoirs, pump stations and groundwater projects in urban settings, any disturbed unpaved areas following construction will be landscaped using plant materials consistent with original site conditions and/or surrounding ornamental vegetation. A permanent irrigation system will be installed and maintained by OWD.	Landscape Contractor/ On-site Construction Supervisor	Post Construction	
Land Use and Planning				
LU-PDF-1	The design of CIP reservoirs, pump stations and water supply projects located within and adjacent to the "Conserved (Subject to Agreement with Wildlife Agencies)" areas under the County of San Diego MSCP (refer to Figure 4.2-2 of this PEIR) will incorporate the following guidelines: Plant materials used for landscaping will consist of native species similar/compatible with the adjacent habitat, and those species should be based on plants with genetic materials of the area.	Landscape Contractor/ On-site Construction Supervisor	Post Construction	
LU-PDF-1	Fencing will be installed along the reserve boundary to prevent uncontrolled human access	Grading &/or Construction Contractor/On-site Construction Supervisor	Before Construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
LU-PDF-1	Lighting within 100 ft of preserve boundary will be confined to areas necessary for public safety	Construction Contractor/ On-site Construction Supervisor	During & post construction	
LU-PDF-2	The design of CIP reservoirs, pump stations, and water supply projects located within and adjacent to the "Hardline Preserve" and "Pre-Approved Mitigation" areas under the City of San Diego MSCP (refer to Figure 4.2-2 of this PEIR) will incorporate the following guidelines: Drainage will be directed away from the reserves so as to avoid the release of toxins, chemicals, and petroleum products in storm water runoff that might degrade or harm the natural environment or ecosystem processes.	Grading &/or Construction Contractor/On-site Construction Supervisor	Before & during construction	
LU-PDF-2	Barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) will be installed along the reserve boundary to prevent uncontrolled human access.	Landscape Contractor/ On-site Construction Supervisor	Post Construction	
LU-PDF-2	Plant materials used for landscaping will consist of native species similar/compatible with the adjacent habitat, and those species should be based on plants with genetic materials of the area.	Engineering Design, Construction Contractor/ OWD, On-site Construction Supervisor	Before & during construction	
LU-PDF-2	Lighting of all developed areas adjacent to the reserve will be directed away from the reserve.	Construction Contractor/ On-site Construction Supervisor	During & post construction	
LU-PDF-2	Manufactured slopes associated with site development shall be included within the development footprint for projects within or adjacent to the reserve.	Landscape Contractor, Engineering Design/ OWD, On-site Construction Supervisor	Before & during construction	
LU-PDF-3	The design of CIP reservoirs, groundwater wells, pump stations, and water supply projects located within and adjacent to the "Conserved" areas under the City of Chula Vista MSCP (refer to Figure 4.2-2 of this PEIR) will incorporate the following guidelines: Through the use of detention basins, drainage will not be discharged directly into the reserves so as to avoid the release of toxins, chemicals, and petroleum products in storm water runoff that might degrade or harm the natural environment or ecosystem processes.	Engineering Design, Construction Contractor/ OWD, On-site Construction Supervisor	Before & during construction	
LU-PDF-3	Plant materials used for landscaping will consist of native species that reflect the adjacent native habitat, and non-native plant species will not be introduced into landscaped areas adjacent to the reserves.	Landscape Contractor/ On-site Construction Supervisor	Post construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
LU-PDF-3	Barriers (fencing, rock/boulders, vegetation) and/or signage will be installed to direct public access to appropriate locations.	Landscape Contractor/ On-site Construction Supervisor	Post construction	
LU-PDF-3	Lighting of all developed areas adjacent to the preserve should be directed away from the preserve wherever possible.	Construction Contractor/ On-site Construction Supervisor	During & post construction	
Noise				
Noi-PDF-1	CIP pump station and well development projects located adjacent to residential land uses shall place pumps, emergency generators, and any other motorized equipment within a masonry enclosure that minimizes interior noise. For any vents included in the enclosure, the construction contractor shall use materials specified within the OWD Standard Specifications for Louvers and Vents (Section 10200). Prior to operation, the noise levels from stationary motorized equipment (including emergency generators) shall be measured to ensure that the following standards are not exceeded: i. CIP Projects located within the San Diego County shall not exceed a one-hour exterior noise limit of 50 dBA at the property line during daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.). ii. CIP Projects located within the city of San Diego shall not exceed a one-hour exterior noise limit of 50 dBA at the property line during daytime hours (7:00 a.m. to 7:00 p.m.), 45 dBA during evening hours (7:00 pm to 10:00 p.m.), and 40 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.). iii. CIP Projects located within the city of Chula Vista shall not exceed a one-hour exterior noise limit of 55 dBA at the property line during daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA during nighttime hours (10:00 p.m. to 7:00 a.m.).	Engineering Design, Construction Contractor/ OWD, On-site Construction Supervisor, Noise Monitor	Before & during construction	
Noi-SCP-1	Construction activities shall comply with applicable local noise ordinances and regulations specifying sound control, including the County of San Diego, City of San Diego, and the City of Chula Vista. Measures to reduce construction/demolition noise to the maximum extent feasible shall be included in contractor specifications and shall include, but not be limited to, the following: i. Construction activity shall be restricted to the hours specified within each respective Municipal Code, depending on the location of the specific CIP project, as follows: - Construction activity for CIP projects located within San Diego County and the city of San Diego shall occur between hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday; construction shall be prohibited on Sundays and holidays. - Construction activity for CIP projects located within Chula Vista shall occur between hours of 7:00 a.m. to 10:00 p.m., Monday through Friday, and between the hours of 8:00 a.m. to 10:00 p.m., Saturday and Sunday.	Construction Contractor/ On-site Construction Supervisor	During construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
	ii. Construction noise for projects located within San Diego County and the city of San Diego shall not exceed an average sound level of 75 dBA for an eight-hour period at the project's property boundary. iii. All construction equipment shall be properly outfitted and maintained with manufacturer-recommended noise-reduction devices.			
Noi-SCP-2	For any construction activities which include blasting, the construction contractor shall implement the OWD Standard Specifications for Explosives and Blasting (Section 02200). Subject to these standard specifications, a qualified blasting consultant and geotechnical consultant shall prepare all required blasting plans and monitor all blasting activities. Prior to blasting, the contractor shall secure all permits required by law for blasting operations and provide notification at least five work days in advance of blasting activities within 300 feet of a residence or commercial building. Monitoring of all blasting activities shall be in conformance with the Standards of the State of California, Department of Mines and in no case shall blasting intensities exceed the safety standards of PPV established by the U.S. Department of Mines.	Construction Contractor, Blasting Geotechnical Consultants/OWD, On-site Construction Supervisor	Before & during construction	
Public Safety				
Haz-SCP-1	Prior to construction of CIP projects, the construction contractor will prepare and submit a HMBP to OWD. The procedures in the HMBP will comply with USDOT (Office of Hazardous Materials Safety) as it pertains to the transportation, storage, use, and disposal of hazardous materials and CHP regulations for the transportation of hazardous materials along state highways.	Construction Contractor/ OWD, On-site Construction Supervisor	Before & during construction	
Haz-PDF-1	OWD will continue to prepare and implement a post-construction HMBP for long-term operations at CIP reservoirs, pump stations and groundwater wells involving the transportation, storage, use, and disposal of hazardous materials. The procedures in the HMBP will comply with USDOT (Office of Hazardous Materials Safety) and CHP regulations for the transportation of hazardous materials along state highways.	OWD/Maintenance Personnel	Post construction	
Haz-PDF-2	OWD will continue to prepare and implement SPCC plans for long-term operations at CIP pump stations that store fuel on site and meet the criteria of requiring an SPCC plan. The procedures in the SPCC will comply with US EPA's regulations for stored fuel and oils to prevent any discharge of oil into or upon navigable waters of the United States or ad-joining shorelines.	OWD/County DEH	As-needed for sites with regulated quantities.	
Mitigation Measure Haz-2A	As part of geotechnical investigations conducted prior to ground-disturbing activities for CIPs (refer to the SCPs listed in Section 4.5, Geology, Soils and Paleontology, of this PEIR), a database search of hazardous materials sites shall be performed within a one-mile radius surrounding the CIP site pursuant to Government Code Section 65962.5. In the event such sites are identified within the search parameters, OWD shall retain a registered environmental assessor to prepare a Remediation Plan for any contaminated	OWD, On-site Construction Supervisor, County DEH, RWQCB/ Construction Contractor, Registered Environmental Assessor	Before & during construction	

PDF/SCP or Mitigation No.	Design Feature or Mitigation Measure	Implementer/Monitor	Schedule	Verification of Compliance (Date/Notes)
	soils or groundwater encountered within the construction area. The Remediation Plan shall be incorporated into the construction documents. If contamination is encountered during ground-disturbing activities, the on-site construction supervisor shall redirect work away from the location of the contamination and shall notify OWD, County DEH and RWQCB. The contamination remediation and removal activities shall be conducted in accordance with the Remediation Plan and pertinent regulatory guidelines, under the oversight of the appropriate regulatory agency.			
Haz-SCP-2	In the event that CIP construction activities would require a lane or roadway closure, or could otherwise substantially interfere with traffic circulation, the contractor will obtain a Traffic Control Permit from the local land use agency and/or state agencies such as Caltrans, prior to construction as necessary, and implement a traffic control plan to ensure that adequate emergency access and egress is maintained and that traffic will move efficiently and safely in and around the construction site. The traffic control plan may include, but not be limited to, the following measures: i. Install traffic control signs, cones, flags, flares, lights, and temporary traffic signals in compliance with the requirements of local jurisdictions, and relocate them as the work progresses to maintain effective traffic control. ii. Provide trained and equipped flag persons to regulate traffic flow when construction activities encroach onto traffic lanes. iii. Control parking for construction equipment and worker vehicles to prevent interference with public and private parking spaces, access by emergency vehicles, and owner's operations. iv. Traffic control equipment, devices, and post settings will be removed when no longer required. Any damage caused by equipment installation will be repaired. v. For CIP construction activities near schools, the contractor will coordinate with schools prior to commencement of construction activity to minimize potential disruption of traffic flows during school day peak traffic periods.	Local Agency, Caltrans, Construction Contractor/ OWD, On-site Construction Supervisor	Before & during construction	
Transportation/Traffic				
	No mitigation required			