FINAL
PROGRAM ENVIRONMENTAL IMPACT REPORT
FOR THE
OTAY WATER DISTRICT 2009 WATER RESOURCES MASTER PLAN UPDATE

SCH No. 2008101127

Prepared For:

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January 2010

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COMMENTS RECEIVED ON THE DRAFT PROGRAM EIR AND RESPONSES

All comments received on the Draft Program EIR (PEIR) have been coded to facilitate identification and tracking. Each of the comment letters received during the public comment period was assigned an identification number (Table 1). These documents were reviewed and divided into individual comments, with each comment containing a single theme, issue, or concern. Individual comments and the responses to them were assigned corresponding numbers. Each numbered comment document is the submittal of a single individual, agency, or organization. The comment number consists of two parts. The first part is the number of the document and the second is the number of the comment. Thus, Comment 1-1 refers to the first comment (comment #1) of Comment Letter 1. To aid the readers and commentors, comments have been reproduced in this document together with corresponding responses on the opposite page.

Any necessary revisions to the PEIR resulting from these responses to comments are indicated within the body of the responses below, and are shown in strike-out text for deletions and underline text for additions. These revisions are also incorporated into the Final PEIR.

No.	Commentor	Agency/Organization	Date
Federal Agencies			
1	Karen A. Goebel, Assistant Field Supervisor; Stephen M. Juarez, Environmental Program Manager	U.S. Fish & Wildlife Service; California Department of Fish & Game	September 3, 2009
State Agencies			
2	Scott Morgan, Acting Director	Governor‟s Office of Planning & Research, State Clearinghouse & Planning Unit	September 3, 2009
3	Michelle L. Jones, Environmental Scientist	State Water Resources Control Board, Division of Financial Assistance	August 13, 2009

No.	Commentor	Agency/Organization	Date
Regional Agencies			
4	Delaine W. Shane, Manager, Environmental Planning Team	Metropolitan Water District of Southern California	September 3, 2009
Local Agencies			
5	Laurence Purcell, Water Resources Manager	San Diego County Water Authority	August 10, 2009
6	Marilyn R.F. Ponseggi, Principal Planner	City of Chula Vista	September 3, 2009
Organizations and Individuals			
7	James W. Royle, Jr., Chairperson of the Environmental Review Committee	San Diego County Archaeological Society, Inc.	August 15, 2009

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In Reply Refer To:
FWS/CDFG-SDG-09B0066-09TA1097

SEP 03 2009

2009 SEP -8 AM 10: 16
OTAY WATER DISTRICT

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

Subject: Comments on the Program Environmental Impact Report for the 2009 Water Resources Master Plan Update for the Otay Water District, San Diego County, California (SCH# 2008101127)

Dear Ms. Coburn-Boyd:

The California Department of Fish and Game (Department) and U.S. Fish and Wildlife Service (Service), hereafter collectively referred to as the Wildlife Agencies, have reviewed the above-referenced draft Program Environmental Impact Report (PEIR) for Otay Water District's 2009 Water Resources Master Plan (WRMP) Update, which was received by our office on July 20, 2009. On November 24, 2008, the Service provided recommendations and comments on the Notice of Preparation (NOP) of a Program Environmental Impact Report (PEIR) to assist the Otay Water District (OWD) in minimizing and mitigating project impacts to biological resources, and to ensure the project is consistent with ongoing regional habitat conservation planning efforts.

The primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States. The Service is also responsible for administering the Federal Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). The Department is a Trustee Agency and a Responsible Agency pursuant to the California Environmental Quality Act (CEQA), Sections 15386 and 15381, respectively. The Department is responsible for the conservation, protection, and management of the State's biological resources, including rare, threatened, and endangered plant and animal species, pursuant to the California Endangered Species Act (CESA) and Fish and Game Code Section 1600 *et seq.* The Department also administers the Natural Community Conservation Planning (NCCP) Program. Portions of the WRMP program area are located within the boundaries of the County of San Diego, City of San Diego, and City of Chula Vista Multiple Species Conservation Program (MSCP) Subarea Planning Areas.

TAKE PRIDE IN AMERICA

The proposed project covers OWD's service area as well as adjacent areas of influence (collectively referred to as planning area). The OWD planning area consists of 80,320 acres (125.5 square miles), within south central San Diego County. The proposed project is to revise OWD's 2002 WRMP by identifying potable and recycled water Capital Improvement Program (CIP) facilities (e.g., pump stations, storage reservoirs, transmission mains) to meet projected water demands within the OWD planning area; and develop a phased approach to implement the CIP projects during the following time frames: 2009-2016 (Phase II) and 2017-Ultimate (Phase III). The CIP projects identified in the 2009 WRMP Update will ensure an adequate, reliable, flexible, and cost effective potable and recycled water delivery system commensurate with growth within the OWD planning area. Subsequent environmental documents for future CIP projects that implement the 2009 WRMP Update would tier from this PEIR.

1-1 The Wildlife Agencies appreciate the opportunity to comment on the draft PEIR for the WRMP Update. The comments provided herein are based on information provided in the draft PEIR, our knowledge of sensitive and declining vegetation communities in San Diego County; and our participation in regional conservation planning efforts. In general, we are concerned the draft PEIR does not contain sufficient detail to estimate the overall level of biological impacts or mitigation that will be required to implement the 2009 WRMP. Additionally, the draft PEIR states that OWD will use the PEIR to evaluate the environmental implications of adopting the 2009 WRMP Update. We are concerned the draft PEIR does not include an adequate biological resources impact assessment to enable OWD to make this determination. Furthermore, because of the programmatic nature of the PEIR it is important to have clear guidelines to determine which projects will require a more rigorous CEQA review; the draft PEIR does not contain these clear guidelines.

We offer the enclosed specific comments and recommendations to assist OWD in avoiding, minimizing, and adequately mitigating project-related impacts to biological resources, and to ensure that any approved project is consistent with all applicable MSCP Subarea Plans. If you have any questions regarding this letter, please contact Paul Schlitt (Department) at (858) 637-5510 or Felicia Sirchia (Service) at (760) 431-9440.

Sincerely,

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

Stephen M. Juarez
Environmental Program Manager
California Department of Fish and Game

cc:
State Clearinghouse (by fax only)
Enclosure

Responses to Letter 1 – U.S. Fish & Wildlife Service/California Department of Fish & Game

1-1 As stated in Section 1.2 (Intended Use and Purpose of the PEIR) of the PEIR, "subsequent environmental documents for future CIP projects that implement the 2009 WRMP 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." The environmental review process for implementation of CIP projects identified in the 2009 WRMP Update is further described in the referenced PEIR section. Detailed development plans are not available for any of the CIP projects addressed in the 2009 WRMP Update and the PEIR – only general project locations are known at this time. As such, there is insufficient detail to estimate the overall level of biological impacts and mitigation required to implement the 2009 WRMP Update. Such uncertainty does not preclude the use of a program EIR, as defined in Section 15168 of the CEQA Guidelines, to establish performance standards that allow for more rigorous, tiered CEQA review of applicable CIP projects that are specifically identified within the text of the listed performance measures. This is the approach used in the 2009 WRMP Update PEIR, in compliance with the stated CEQA Guidelines.

As intended under the CEQA tiering process, project-level analyses will be conducted during the design phase for future CIP projects, at which time the appropriate level of subsequent CEQA documentation will be determined by OWD. The subsequent analyses will include biological surveys for those projects listed in performance measure Bio-1A (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR). If the surveys identify the potential for impacts to biological resources, then mapping and quantification of the impacts will be documented in a Biological Technical Report (BTR) as part of subsequent CEQA documentation. Detailed project-specific avoidance and mitigation measures for significant impacts to biological resources, including the incorporation by reference of any applicable measures from the PEIR, will be negotiated between OWD and the regulatory agencies as part of the approval and certification process for the subsequent CEQA documentation. It is acknowledged that additional clarification of this CEQA tiering process is warranted in other sections of the PEIR; therefore, in response to this comment, the following text has been revised:

Chapter 4.0 (Scope and Format of Environmental Impact Analysis), Format of the Environmental Impact Analysis, Impacts and Mitigation, Mitigation/Performance Measures, fourth through sixth sentences:

> Mitigation measures are the specific environmental requirements to allow for construction of ~~near-term~~ 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 ~~for the near-term projects,~~ 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 ~~long-term~~ specific projects identified in the performance measure, prior to future approvals and construction of these projects consistent with the Findings of this PEIR.

Performance measures Bio-1A and Bio-1B(iv) (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR):

Bio-1A ~~At least eight (8) weeks prior to vegetation clearing, grading, and/or construction activities~~ During the design phase for the following CIP projects, OWD shall retain a qualified biologist to conduct ~~pre-construction~~ 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 the PEIR) of this PEIR: Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, PS LOPS, Pipeline P2177, R2089, and P2454.

Bio-1B If the ~~pre-construction~~ 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 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:

iv. For CIP projects 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 CIP projects 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), ~~and~~ 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), ~~and~~ 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 CDFG: (1) Debit credits from the San Miguel HMA upon approval of the OWD MSCP Subarea Plan (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 mitigation ratios to be ~~determined~~ 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 ~~monitoring and~~ maintenance requirements to ensure the success of the mitigation site(s).

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Table 4.2-2. San Miguel HMA - Mitigation Bank Transaction Summary

Year	Description	Coastal Sage Scrub	Chamise Chaparral	NNG/Sage Ecotone	Native Grassland	Nonnative Grassland	Nonnative 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 P2009 36-inch pipeline	(1.90)													(1.90)
2009	**Final Values**	**135.565**	**0.375**	**0.743**	**0.055**	**7.973**	**12.483**	**0.609**	**2.808**	**2.664**	**2.529**	**0.639**	**1.425**	**0.135**	**170.123**

ENCLOSURE

Specific Comments on the Otay Water District's 2009 Water Resources Master Plan Update PEIR

Biological Resources Impact Assessment and Mitigation

1-2 1. Because the evaluation of biological resource impacts in the draft PEIR is very general, it is unclear how the OWD will evaluate the environmental implications of adopting the 2009 WRMP 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 2009 WRMP nor is there a current analysis of impacts to sensitive plant and animal species (see comment 6 below). To adequately determine the environmental implications of adopting the 2009 WRMP, a more thorough, and current, assessment of habitat impacts should be conducted (see comment 3). In our Notice of Preparation (NOP) comment letter, we 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 2009 WRMP.

1-3 2. Site-specific biological surveys were not conducted as part of the draft PEIR's biological impact assessment (Section 4.2.1.1). However, "less than significant" impact determinations were made for those CIP projects located within disturbed areas. Absent adequate biological surveys, it is premature to assume that impacts to sensitive biological resources will be "less than significant" in areas currently identified as disturbed; sensitive species (e.g., *Ambrosia pumila*) are occasionally found in highly disturbed locations. In areas designated as critical habitat or near sensitive species occurrences or suitable habitat, a project-level review (including preparation of the subsequent environmental documents per §15168 of the CEQA Guidelines) will be necessary.

1-4 3. The draft PEIR provides limited details on potential impact footprints for pipelines, pump stations, and reservoirs, other than general structural information, e.g., "Typical reservoir sites consist of a storage tank (reservoir) constructed on a level, graded pad." We recognize site-specific information may not be currently available; however, the Wildlife Agencies have consulted on several OWD projects involving pipelines, pump stations, and reservoirs where acreage impacts were calculated for these facilities. Therefore, OWD should be able to estimate typical acreage impacts for these facilities, which should be provided in the draft PEIR. Furthermore, digital vegetation layers are available for

1-2 Please refer to response to comment 1-1 above.

1-3 As described in Section 4.2.3.1 (Issue 1 – Sensitive Species and Habitats) of the PEIR, the following CIP projects were determined to have no potential for impacts to biological resources, in addition to the pipeline projects within roadways. PS 657-1/850-1 would involve demolition of two existing pump stations within the developed footprint of these facilities. PS 927-1 would involve upgrade of an existing pump station within the developed footprint of this facility. The new pump station PS 870-2 would be constructed within the fenced limits of a graded area covered with gravel that is adjacent to the existing Low-Head and PS 871-1 pump stations and the existing 571-1 Reservoir. The new pump station PS 2391 would be constructed within developed OWD property south of the existing Robert A. Purdue Water Treatment Plant. The Rancho Del Rey Well development project (P2434) would be constructed within the boundaries of a paved well site. The proposed wells associated with the Otay Mesa Lot 7 Groundwater Well development project (P2482) would be located within an industrial area. Finally, P2370 would involve demolition of the existing Dorchester Reservoir and Pump Station within the developed footprint of these facilities. Therefore, these are all developed sites with no potential for habitat to occur, including highly disturbed areas (e.g., bare ground, ruderal areas) that could support sensitive plants such as *Ambrosia pumila*.

As further described in Section 4.2.3.1 (Issue 1 – Sensitive Species and Habitats) of the PEIR, designated critical habitat areas occur near PS 870-2, PS 2391, and P2434. However, these project sites are developed and do not contain habitat that would support listed species or other biological resources.

1-4 Please refer to response to comment 1-1 above.

1-4 cont. San Diego County. Therefore, a coarse impact assessment for habitat types should be conducted for each project based on the project's preliminary location and acreage impacts. This information should be provided in the final PEIR (CEQA Guidelines, §15146(a)).

1-5 4. The draft PEIR concludes that the mitigation provided is sufficient to reduce significant biological impacts to a less than significant level (Table ES-1). However, because specific impacts are not articulated and the mitigation measures provided (*Bio-1A through 1E*) to offset direct biological impacts do not identify mitigation ratios or appropriate offsite habitat to offset impacts, we do not agree with the draft PEIR's conclusion that all biological resources impacts will be reduced to a less than significant level.

1-6 5. The draft PEIR states that final mitigation requirements for individual CIP projects will be determined during the permitting process with appropriate regulatory agencies. Because subsequent CIP projects would tier from this PEIR, we recommend the final PEIR provide some detail on the mitigation ratios and the location(s) of possible mitigation sites(s). Typical mitigation ratios for direct impacts to sensitive vegetation types include 2:1 for coastal sage scrub, 3:1 for native grassland, 0.5:1 for non-native grassland (absent threatened or endangered species), 2:1 for oak woodland, 3:1 for riparian woodland, and 2:1 for riparian scrub that does not support threatened or endangered species. If impacts occur within previously conserved lands, these ratios are typically doubled. This information should be incorporated into the more detailed biological assessment described in comment No. 3 to determine potential offsite acquisition needs.

1-7 6. In section 4.2.1.1, *Research Methods*, the species databases used to determine species occurrences reference the year 2006, with the exception of the California Native Plant Society, which references the year 2007. These species occurrence databases are updated continually; therefore, versions from 2006 may not include the most current occurrence data. Please clarify the actual date these databases were queried.

1-8 7. The draft PEIR did not include an analysis of potential indirect impacts to sensitive species and habitats from effects of invasive non-native species due to construction of CIP projects. Because grading would be associated with future CIP activities, the final PEIR should evaluate the potential for the spread of non-native species into surrounding undisturbed habitats. Furthermore, the mitigation measures should be revised to adequately address these impacts.

1-9 8. Future CIP projects that are adjacent to and/or near open space areas and/or wetland/ riparian areas, should use native plants appropriate for the area within landscaped areas to the greatest extent possible. The OWD should not plant, seed, or otherwise introduce invasive exotic plant species to landscaped areas adjacent and/or near native habitats.

1-5 Please refer to response to comment 1-1 above regarding revisions to performance measure Bio-1B(iv) (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR) to identify mitigation ratios. This measure already requires the need to identify appropriate off-site habitat to offset impacts on a project-specific basis (also, please refer to Table 4.2-2 which has been added to this section and documents the remaining mitigation credits currently available within the San Miguel HMA). With implementation of subsequent tiered environmental documents and mitigation/performance measures Bio-1A through Bio-1E, impacts to biological resources from the construction of CIP projects identified in the 2009 WRMP Update would be reduced to less than significant levels.

1-6 Please refer to responses to comments 1-1 and 1-5 above.

1-7 As stated in response to comment 1-1 above, project-level analyses will be conducted during the design phase for future CIP projects, at which time the appropriate level of subsequent CEQA documentation will be determined by OWD. The subsequent analyses will include biological surveys for those projects listed in performance measure Bio-1A (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR). If the surveys identify the potential for impacts to biological resources, then impacts will be documented in a BTR as part of subsequent CEQA documentation, and new project-specific species occurrence database queries will be performed at that time. In addition to the databases listed in Section 4.2.1.1 (Research Methods) of the PEIR, the California Natural Diversity Database"s (CNDDB) *Special Plants, Bryophytes, and Lichens List* (California Department of Fish and Game [CDFG] 2008) will be queried.

1-8 In response to this comment, Section 4.2.3.1 (Issue 1 – Sensitive Species and Habitats) of the PEIR has been revised to include a new Standard Construction Practice (SCP), as follows:

Project Design Features/Standard Construction Practices

~~There are no PDFs or~~Implementation of the 2009 WRMP Update would include, but not be limited to, the following SCP~~s identified~~ to reduce potential impacts to sensitive or special-status species or sensitive habitats.

Bio-SCP-1 After completion of final grading for CIP projects 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 nonnative 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.

In addition, the discussions under "Indirect Impacts" in Section 4.2.3.1 (Issue 1 – Sensitive Species and Habitats) of the PEIR have been revised, as follows:

Indirect Impacts

Potential indirect impacts to sensitive species and habitats from construction of CIP projects under the 2009 WRMP Update could include impaired water quality, fugitive dust, noise, night lighting, ~~and~~ 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 2009 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. ~~Temporary, construction-related~~ Potential impacts from ~~decreased~~ 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 HMBP requirements (refer to Geo-SCP-3 in Section 4.5.3.2, Geology, and Hyd-SCP-1 in Section 4.6.3.1, Hydrology, of the 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. Therefore, construction of Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, Pipeline P2177, and R2089 could have significant indirect construction noise impacts to sensitive avian species.

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 4.9.3.1, 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 CIP projects 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. Therefore, construction of Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, Pipeline P2177, and R2089 could have significant indirect night lighting impacts to nocturnal sensitive animal species.

For above-ground CIP facilities (i.e., storage reservoirs/tanks and pump stations) under the 2009 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.

In addition, Ene-PDF-2 (Section 4.4.3.1, Issue 1 – Energy Consumption, of the PEIR) has been revised, as follows:

Ene-PDF-2 All outdoor (security) lighting ~~used~~ installed at the above-ground CIP ~~project sites would be~~ facilities (i.e., storage reservoirs/tanks and pump stations) under the 2009 WRMP Update will use energy-efficient light emitting diodes (LEDs), with~~.~~ ~~OWD would install~~ motion-sensor lighting controls to limit ~~outdoor lighting~~ usage. Lighting adjacent to native vegetation communities will be of low illumination, shielded, and directed downwards and away from these areas to avoid potential impacts to nocturnal wildlife from increased predation that could occur from "spill-over" of nighttime light levels into the adjacent habitats.

1-9 Please refer to response to comment 1-8 above.

1-9 cont. Exotic plant species to avoid include those species listed on the California Invasive Plant Council's (Cal-IPC) Invasive Plant Inventory. In addition, landscaping adjacent to native habitats should not use plants that require intensive irrigation, fertilizers, or pesticides. Water runoff from landscaped areas should be directed away from mitigation/open space and/or wetland/riparian areas and contained and/or treated within the development footprint. We recommend adding a mitigation measure to the final PEIR to address these issues.

1-10 9. The biological resources indirect impact analysis (i.e., impaired water quality, fugitive dust, noise, night lighting, and staging areas) should include potential long-term impacts from operations and maintenance of all facilities/structures over the life of the project. Please include this analysis in the final PEIR.

1-11 10. Mitigation/Performance measure *Bio-1A* (Table ES-1 and *Mitigation/Performance Measure*, page 4.2-23) requires that pre-construction biological surveys be conducted at least 8 weeks prior to ground disturbance activities. However, surveys should be conducted at the appropriate time of the year to readily detect the species. Therefore, this mitigation measure should be revised to clearly identify the criteria for conducting rare, threatened, and endangered plant surveys at the appropriate time of year and in accordance with adopted protocols.

1-12 11. Mitigation/Performance measure *Bio-1B(iii)* defines the raptor breeding season as generally extending from February 1 through July 31. The Wildlife Agencies strongly recommend that vegetation clearing, grading, and construction activities occur prior to January 15 to take into account the earlier occurrences of raptor nesting activity that has been documented in San Diego County.

1-13 12. If habitat enhancement, restoration, and creation is anticipated, the current mitigation and performance standards outlined in *Bio-1B(iv)(b)* should be revised to identify the minimum performance standards that OWD would be required to implement. For example, the Wildlife Agencies typically require that plans for restoration and revegetation be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Furthermore, each plan should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) a planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria (e.g., percent cover of native and non-native species; species richness); (h) a 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 providing for conservation of the mitigation site in perpetuity (including conservation easements, and management funding).

1-10 Please refer to response to comment 1-8 above regarding revisions to Section 4.2.3.1 (Issue 1 – Sensitive Species and Habitats) of the PEIR to address potential indirect impacts from long-term operations at above-ground CIP facilities (i.e., storage reservoirs and pump stations).

1-11 The OWD cannot anticipate that the timing of the design phase for future CIP projects will coincide with the appropriate seasonal timing for detection of special-status plant species, as part of the biological surveys required in performance measure Bio-1A. However, new project-specific species occurrence database queries will be performed in conjunction with the subsequent biological surveys, regardless of their timing. As such, all potentially-occurring species will be properly identified at that time, and appropriate mitigation measures identified and implemented in connection with subsequent CEQA documentation (which tiers from the Final PEIR) and regulatory agency permit conditions, as applicable.

1-12 In response to this comment, the first sentence in performance measure Bio-1B(iii) (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR) has been revised, as follows:

> iii. Ten (10) days prior to vegetation clearing, grading and/or construction activities that are scheduled to occur during the raptor nesting season (generally ~~February 1~~ 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.

1-13 Please refer to response to comment 1-1 above regarding revisions to performance measure Bio-1B(iv)(b) (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR) to include minimum contents and requirements for habitat restoration plans.

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1-14 13. Mitigation/Performance Measure *Bio-1B(iv)(b)* outlines three possibilities for offsite mitigation: 1) debit credits from the San Miguel Habitat Management Area (HMA), 2) contribute to existing MSCP preserves, or 3) enhance, restore, create, and preserve offsite habitat areas at locations and ratios to be determined by the appropriate regulatory agency. Please revise option number 3 to read, 'enhance, restore, create, and preserve offsite habitat areas at locations and ratios to be approved by the appropriate regulatory agency."

1-15 14. The purpose of the San Miguel HMA is to provide for in-kind habitat mitigation. The sensitive habitat types onsite are limited to coastal sage scrub, native grassland, and southern willow scrub, with a small amount of chamise chaparral. Therefore, direct impacts to habitat types other than those mentioned, cannot be offset at the San Miguel HMA. Because the HMA will have limited mitigation potential, it is important the OWD provide more specific direct impact analysis to biological resources so a more proactive approach to finding suitable mitigation lands can be undertaken. Additionally, the final PEIR should include a table showing a current accounting of the available credits and habitat types for the San Miguel HMA.

1-16 15. The list of *Sensitive Vegetation Communities* found on page 4.2-9 of the draft PEIR does not include Diegan coastal sage scrub (CSS). The Wildlife Agencies consider this vegetation type to be sensitive, therefore the final PEIR should include CSS on this list.

Consistency with Approved Multiple Species Conservation Program (MSCP) Plans

1-17 16. Section 4.2.1.3 of the draft PEIR states that "non-native grassland and chaparral (including chamise chaparral and mixed chaparral) occur within the WRMP planning area and are not considered sensitive, but may harbor sensitive plant or animal species." This determination is inconsistent with the various MSCP subarea plans that fall within the WRMP planning areas. The County of San Diego, City of San Diego, and City of Chula Vista MSCP Subarea plans require mitigation for impacts to mixed chaparral, chamise chaparral, and non-native grassland. It is likely that CIP projects would affect these sensitive vegetation types. To be consistent with these MSCP plans, the final PEIR should add these vegetation types to the list of sensitive vegetation communities provided on page 4.2-9 and specify how impacts to these vegetation communities will be mitigated.

1-18 17. The draft PEIR does not analyze the potential direct, indirect, and cumulative impacts CIP projects will have on vegetation communities, covered species, core biological resource areas, wetland buffers, or wildlife corridors and linkages associated with MSCP subarea plans. In addition to information provided on the purpose/intent of the NCCP/HCP planning process (i.e., Section 4.2.2.3), the final PEIR should analyze the potential for significant impacts to biological resources as a result of projects being located within core resource areas. The Wildlife Agencies recommend that the entire CIP project meet or exceed the mitigation ratios, guidelines, and standards required by each

1-14 Please refer to response to comment 1-1 above regarding revisions to performance measure Bio-1B(iv)(b) (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR) to use this term.

1-15 Please refer to response to comment 1-1 above regarding revisions to performance measure Bio-1B(iv)(b) (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR) to add a new Table 4.2-2 (San Miguel HMA - Mitigation Bank Transaction Summary) that shows the status of the mitigation bank credits within the HMA, as of the date of this Final PEIR. As indicated in the table, mitigation credits are available within the HMA for the following sensitive vegetation communities: coastal sage scrub, chamise chaparral, non-native grassland/sage ecotone, native grassland, non-native grassland, non-native woodland, southern willow scrub, tamarisk scrub, ponds, dry marsh/riparian scrub, freshwater marsh, agricultural field/disturbed, and developed. The terms and conditions for implementation of the mitigation credits are contained within the *OWD San Miguel HMA Mitigation Bank Establishment and Operating Procedures* (Merkel & Associates 1996). In addition, the Section 7 Agreement and Biological Opinion (BO) issued by the U.S. Fish & Wildlife Service (USFWS) in 1994, as well as subsequent Reinitiated BOs (1999 and 2006), were reviewed (note: OWD is in the process of preparing a supplemental BO and amending its Section 7 agreement with the USFWS to cover current conditions and additional projects). Nothing in these documents precludes the use of these credits for out-of-kind mitigation. Impacts to any of the sensitive vegetation communities listed in Section 4.2.1.3. (Special-Status Biological Resources) of the Final PEIR resulting from future CIP projects could be offset by mitigation credits of similar habitat types within the HMA. In fact, this precedence has already been established by the regulatory agencies for impacts to upland habitats, as out-of-kind mitigation credits have been authorized for the permanent loss of Otay tarplants and maritime succulent scrub habitat associated with approved development of OWD facilities in recent years. Therefore, it is possible that impacts to riparian habitats, such as southern sycamore-alder riparian woodland, sycamore alluvial woodland, mule fat scrub, southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern willow scrub and coastal freshwater marsh, may be partially offset (based on the appropriate out-of-kind compensation ratios to be approved by the regulatory agencies) through mitigation credits for the following riparian habitats within the HMA: southern willow scrub, tamarisk scrub, ponds, dry marsh/riparian scrub, and freshwater marsh.

Furthermore, the above-referenced *OWD San Miguel HMA Mitigation Bank Establishment and Operating Procedures* provides for consideration of out-of-kind mitigation credits in the discussion of Alternative 1 in Section 6.8.3 (Mitigation Credit Use), as demonstrated in the following statement: ". . . opportunities may exist for the banked credits to serve as a part of a more detailed multiple element mitigation program."

1-16 In response to this comment, Section 4.2.1.3 (Special-Status Biological Resources) of the PEIR has been revised, as follows, to include this sensitive vegetation community, which was inadvertently omitted from the list:

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:

- <u>Diegan coastal sage scrub</u>
- 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
- ~~Needlegrass~~ 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

~~Non-native grassland and chaparral (including chamise chaparral and mixed chaparral) occur within the planning area and are not considered sensitive, but may harbor sensitive plant or animal species.~~

1-17 Please refer to response to comment 1-16 above regarding revisions to Section 4.2.1.3 (Special-Status Biological Resources) of the PEIR to identify non-native grassland, chamise chaparral and mixed chaparral as sensitive vegetation communities, as they are considered such by the various MSCP subarea plans that are encompassed within the WRMP planning area. Mitigation for potential impacts to these sensitive vegetation communities is addressed in the revised performance measure Bio-1B(iv)(3) (please refer to response to comment 1-1 above).

1-18 Potential impacts to MSCP wildlife corridors and linkages from implementation of the CIP projects identified in the 2009 WRMP Update are addressed in the discussion under the second question in Section 4.2.5 (CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2009 WRMP Update, Biological Resources) of the PEIR. In response to this comment, Section 4.2.3.1 (Issue 1 – Sensitive Species and Habitats) of the PEIR has been revised to address potential impacts to biological resources within the various MSCP subarea plans that are encompassed within the WRMP planning area, as follows:

CIP Reservoir Projects

Res 640-3. This new reservoir would be constructed on undeveloped land directly east of the existing 640-1 and 640-2 reservoirs, within an approximately 70-acre site owned by OWD. A biological survey, sensitive plant survey and wetland delineation were conducted at this site in 2005 as part of the *Mitigated Negative Declaration for the 640-1 and 640-2 Reservoirs* (HDR, 2006). The 2005 biological studies identified the following sensitive species and habitats within the 70-acre site: Palmer"s goldenbush (*Ericameria palmeri*), California gnatcatcher, San Diego black-tailed jackrabbit, San Diego desert woodrat, western whiptail, western spadefoot toad (*Scaphiopus hammondii*), wetlands, and coastal sage scrub. The potential presence of California gnatcatcher onsite and/or in the vicinity of the site has also been previously documented by CNDDB (Figure 4.2-4). As depicted in Figure 4.2-1, this project would be located within, and/or adjacent to, a "Conserved Preserve Area", "Pre-Approved Mitigation Area", and "Take Authorized Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, wetland buffers, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. Should the reservoir be constructed on the portion of the site that is disturbed, potential impacts to sensitive biological resources would be avoided. However, the final location of the reservoir is unknown at this time; therefore, biological impacts remain potentially significant.

Res 1296-4. This new reservoir would be constructed on undeveloped land within the CDFG Rancho Jamul Ecological Reserve. According to the CNDDB, the following sensitive species have been recorded within this Reserve: California gnatcatcher, golden eagle, northern harrier, red-tailed hawk, California rufous-crowned sparrow, white-tailed kite, orange-throated whiptail, San Diego horned lizard, western whiptail (*Cnemidophorus tigris*), American badger, gray fox, mule deer, and San Diego black-tailed jackrabbit. As depicted in Figure 4.2-1, this project would be located within a "Conserved Preserve Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. In addition, this project would be located within designated critical habitat for Quino checkerspot butterfly (Figure 4.2-5). Therefore, construction of Res 1294-4 could have significant direct impacts to sensitive species and habitats.

Res 980-4. This new reservoir would be constructed on an undeveloped hilltop within the WRMP Area of Influence in the Jamul Mountains, northeast of Upper Otay Reservoir. This site has not been assessed for biological resources and could contain sensitive species and habitats. As depicted in Figure 4.2-1, this project would be located within a "Conserved Preserve Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. In addition, this project would be located within designated critical habitat for Quino checkerspot butterfly (Figure 4.2-5). Therefore, construction of Res 980-4 could have significant direct impacts to sensitive species and habitats.

Res 860-1 and Res 870-2. These new reservoirs would be constructed on a highly degraded site adjacent to the existing 870-1 Reservoir. Although the likelihood of this CIP project impacting sensitive species or habitats is low, there appears to be a natural drainage feature in the southwest corner of the site that could contain sensitive biological resources. As depicted in Figure 4.2-1, this project would be located within a "Take Authorized Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, wetland buffers, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. In addition, these projects would be located within designated critical habitat for Quino checkerspot butterfly (Figure 4.2-5). Therefore, construction of Res 860-1 and Res 870-2 could have significant direct impacts to sensitive species and habitats.

CIP Pump Station Projects

PS 978-2. This new pump station would be constructed on undeveloped land adjacent to the existing 803-3 Reservoir, near the Singing Hills Country Club. This area contains habitat that could support sensitive biological resources. The potential presence of California gnatcatcher onsite and/or in the vicinity of the site has also been previously documented by CNDDB (Figure 4.2-4). As depicted in Figure 4.2-1, this project would be located within a "Pre-Approved Mitigation Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, wetland buffers, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. Therefore, construction of PS 978-2 could have significant direct impacts to sensitive species and habitats.

PS 1090-1. This new pump station would be constructed on a highly disturbed site (graded and covered with gravel) owned by OWD, and adjacent to the existing 1090-1 Reservoir. The site does not contain habitat that would support biological resources; however, it is located within designated critical habitat for California gnatcatcher and Quino checkerspot butterfly (Figure 4.2-5). As depicted in Figure 4.2-1, this project would be located near a "Conserved Preserve Area" and "Take Authorized Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. Therefore, PS 1090-1 could have significant direct impacts to sensitive species.

PS 1296-2. This new pump station would be constructed along the unpaved Proctor Valley Road, which traverses undeveloped land that has been disturbed by past grazing activities and grading for the dirt road; however, some areas along this road could contain sensitive biological resources. As depicted in Figure 4.2-1, this project would be located near a "Conserved Preserve Area" and "Take Authorized Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. In addition, this project would be located within designated critical habitat for California gnatcatcher, Quino checkerspot butterfly and Otay tarplant (Figure 4.2-5). Therefore, construction of PS 1296-2 could have significant direct impacts to sensitive species and habitats.

PS LOPS. This new pump station would be constructed on a highly disturbed site adjacent to the temporary Lower Otay Pump Station and southwest of the Otay Water Treatment Plant, which is owned and operated by the City of San Diego. The site does not contain habitat that would support biological resources; however, it is located within designated critical habitat for Quino checkerspot butterfly (Figure 4.2-5). As depicted in Figure 4.2-1, this project would be located within a "Take Authorized Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. Therefore, PS LOPS could have significant direct impacts to sensitive species.

CIP Pipeline Projects

With the exception of Pipeline P2177, it is assumed that all CIP pipelines would be installed within existing paved roadways as part of a local agency public improvement or CIP project, or concurrently with the construction of planned roadways by private developers (Table 4.2-1). If the timing of any of the pipelines listed in Table 4.2-1 is such that they would need to be installed prior to construction of the planned roadways, then they could result in significant direct impacts to sensitive species and habitats. CIP Project P2177 would be installed through the CDFG Rancho Jamul Ecological Reserve to connect to Res 1296-4. As discussed above, several sensitive species have been recorded within this Reserve. As depicted in Figure 4.2-1, this project would traverse a "Conserved Preserve Area" and "Take Authorized Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. In addition, a portion of this pipeline would be located within designated critical habitat for Quino checkerspot butterfly (Figure 4.2-5). Therefore, construction of Pipeline P2177 could have significant direct impacts to sensitive species and habitats.

CIP Water Supply Projects

R2089. The North District Recycled Water Concept project would entail retrofitting two existing recycled water storage tanks, Res 832-1 and Res 832-2, and installation of recycled water pipelines within existing rights-of-way. However, this project is still in the design phase at this time. The exact alignments of the pipelines associated with this project may change; pipelines may need to be installed in areas outside of existing rights-of-way which could result in potential disturbance to biological resources. As depicted in Figure 4.2-1, this project would be located near a "Conserved Preserve Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, wetland buffers, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. In addition, some pipeline segments may be located within designated critical habitat for least Bell‟s vireo (Figure 4.2-5). Therefore, R2089 could have significant direct impacts to sensitive species and habitats.

Please refer to response to comment 1-1 above regarding revisions to performance measure Bio-1B(iv) (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR) to identify mitigation for MSCP resources in accordance with the ratios, guidelines and standards required by each of the various MSCP subarea plans that are encompassed within the WRMP planning area.

1-18 cont. subarea plan to maintain the project's consistency to the onsite and adjacent areas that are described in the subarea plans.

California Environmental Quality Act (CEQA) Requirements

1-19 18. The discussion provided in section 1.3.2, *Draft PEIR Public Review*, pertaining to "responsible agencies," should be revised to correctly identify the Department's authority as a "trustee" and "responsible" agency under the CEQA. The Department is always a "trustee agency" under CEQA where a proposed project may impact biological resources (CEQA Guideline, §15386; see also Fish and Game Code, §1802). The Department may also be a "responsible agency" for a project that affects biological resources where the Department will exercise its discretion *after* the lead agency approves or carries out a proposed project or some facet thereof (Public Resource Code, §21069; CEQA Guidelines, §15381, Fish and Game Code §2050 *et seq.* and Fish and Game Code §1600 *et seq*).

1-20 19. The CEQA standards of significance that are outlined in the draft PEIR (*Chapter 4.0*, page 4.0.2) should clearly identify the established significance thresholds (expanding upon those provided in Appendix G of the CEQA Guidelines) that OWD will apply to determine the significance of effects of CIP projects on sensitive biological resources. For example, in the section that analyzes the potential impacts to biological resources, it is unclear if non-native grassland and chaparral (including chamise chaparral and mixed chaparral) were determined to be non-sensitive vegetation types. The CEQA encourages lead agencies to develop project specific thresholds of significance to assist in determining significance of environmental effects (CEQA Guidelines, §§15064.7(a)(b) and 15022(b)). The final PEIR should specify these types of adopted thresholds to aid in OWD's environmental review process.

1-21 20. The Department considers special status plants to include species that meet one or more of the following criteria. Therefore, the final PEIR should including the following criteria defining special status plants (*Section 4.2.1.3 Special-Status Biological Resource,* page 4.2-6). These plants should also be included in Appendix B.

- Meets the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
  - Species considered by the CNPS to be "rare, threatened or endangered in California" (**Lists 1B and 2**);
  - Species listed by CNPS as plants about which more information is needed to determine their status (**List 3**) or plants of limited distribution (**List 4**) that may warrant consideration on the basis of local significance or recent biological information;

1-19 The comment provides an incorrect interpretation of a "responsible agency" under CEQA, as defined in the referenced sections of the Public Resources Code and State CEQA Guidelines. As stated in Section 15381 of the CEQA Guidelines, "For the purposes of CEQA, the term "Responsible Agency" includes all public agencies other than the Lead Agency which have **discretionary approval power over the project** (**emphasis added**)." As indicated in Section 1.3.2 (Draft PEIR Public Review) of the PEIR, the USFWS and U.S. Army Corps of Engineers (and by inference the California Department of Fish and Game) are considered "trustee agencies" as defined in Section 15386 of the CEQA Guidelines because these agencies have jurisdiction by law over natural resources that could be affected by implementation of the 2009 WRMP Update. This distinction is also acknowledged in the USFWS NOP comment letter dated November 24, 2008, which states "The primary concern and mandate of the Service is the protection of public fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and endangered animals and plants occurring in the United States." As such, after approval of the 2009 WRMP Update by the OWD Board of Directors (Lead Agency under CEQA), several permits and other authorizations must be obtained from the "trustee agencies" mentioned above, as well as the other agencies listed in Table 3-8 (Potential Permits and Approvals) of the PEIR, for applicable CIP projects. However, none of these agencies have "discretionary approval authority" over the 2009 WRMP Update itself, and are therefore not considered "responsible agencies" under CEQA.

1-20 The CEQA standards of significance (i.e., the established significance thresholds from Appendix G of the State CEQA Guidelines) are clearly identified within the either the "Impacts and Mitigation" or the "CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2009 WRMP Update" sections of each environmental issue topic throughout Chapter 4.0 of the PEIR, or in Section 5.1 (Effects Found Not to be Significant" section of the PEIR. For example, the standards of significance (from Appendix G of the State CEQA Guidelines) that pertain to impacts to biological resources are identified in Section 4.2.3.1 (Issue – Sensitive Species and Habitats) and Section 4.2.5 (CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2009 WRMP Update, Biological Resources). Please refer to response to comment 1-16 above regarding revisions to Section 4.2.1.3 (Special-Status Biological Resources) of the PEIR to identify non-native grassland, chamise chaparral and mixed chaparral as sensitive vegetation communities, as they are considered such by the various MSCP subarea plans that are encompassed within the WRMP planning area.

1-21 The first two criteria defining special status plants, as referenced in the comment, are addressed in Section 4.2.1.3 (Special-Status Biological Resources) of the PEIR. In addition, Appendix B of the PEIR includes the reported or potentially occurring species within the WRMP planning area that correspond to these criteria resulting from the queries of the CNDDB (2006) and California Native Plant Society (CNPS) *Inventory of Rare and Endangered Vascular Plants* (CNPS 2007), as listed in Section 4.2.1.1 (Research Methods) of the PEIR. Please refer to response to comment 1-7 above regarding consideration of the CNDDB *Special Plants, Bryophytes, and Lichens List* (CDFG 2008) in future queries associated with subsequent biological studies and CEQA documentation for applicable CIP projects that implement the 2009 WRMP Update.

1-21 cont.

- Species included on the California Natural Diversity Database's (CNDDB) Special Plants, Bryophytes, and Lichens List (California Department of Fish and Game 2008).

1-22

21. The final PEIR should provide a method for identifying the supplemental CEQA documents (e.g., Addendums, Initial Studies, Mitigated Negative Declarations, EIR's) that would be developed when individual CIP projects are initiated. The draft PEIR suggests that, per CEQA, lead agencies should utilize a checklist or similar device in association with subsequent activities that involve site specific operations, in order to evaluate the site and activity to determine whether the environmental effects of the operation were covered in the program EIR (CEQA Guidelines, §15168(c)(4)). However, a checklist or similar device was not included in the draft PEIR. The Wildlife Agencies recommend the final PEIR incorporate this type of measure for determining when a project would require a more rigorous CEQA review. This documentation should also be provided with the site-specific biological assessments that are required under the mitigation/performance measures.

State Regulations

1-23

22. The draft PEIR does not adequately analyze the extent of potential effects that future projects could have on habitat and associated species within the Department's Ecological Reserves. Furthermore, the draft PEIR does not clearly define whether these projects are located within inholdings (or easements) on the ecological reserve that allow such development rights. If these structures are not currently approved for or allowed under pre-existing agreements, development of this type is considered incompatible with the purpose/intent of an ecological reserve and consequently should be removed from further consideration in these reserve areas.

1-24

23. Given the guidance provided in comment #22 above, the analysis provided in Section 4.7, *Landform Alteration and Visual Aesthetics*, should also be amended to identify an alternate location for the placement of Res 1296-4 outside the boundaries of the ecological reserve. Based on that location, the Department will need to evaluate the subsequent landform alteration and visual aesthetics analysis in order to determine potential effects to viewsheds associated with ecological reserve areas.

1-25

24. Section 4.2.2.2, *State Regulations* (section heading *CDFG Ecological Reserves*), should be revised to identify Hollenbeck Canyon Wildlife Area, along with the two other Department properties that are mentioned. Sections 4.8.1.1 and 4.8.3.1 of the final PEIR should also be revised to correctly identify Department land holdings.

1-26

25. In addition to the California Endangered Species Act (CESA) regulatory overview that was provided in Section 4.2.2.2 and Table 3-8, the standards for issuance of permits under Fish and Game Code §2080(b) and (c) and California Code of Regulations, Title

1-22 Please refer to response to comment 1-1 above.

1-23 Potential impacts to biological resources within the CDFG Rancho Jamul Ecological Reserve from CIP projects Res 1296-4 and P2177 are addressed in Section 4.2.3.1 (Issue 1 – Sensitive Species and Habitats) of the PEIR. None of the CIP projects under the 2009 WRMP Update would be located within or near the CDFG Otay Mountain Ecological Reserve. With regards to Res 1296-4 and P2177 which are proposed within the Rancho Jamul Ecological Reserve, OWD will work with CDFG to identify appropriate locations for these facilities and to process the necessary easement documents. OWD has identified a deficiency in this hydraulic gradient for fire suppression purposes. Siting a new reservoir/pipeline within or near the Rancho Jamul Ecological Reserve would provide the necessary water supply to facilitate wildland fire suppression efforts in compliance with the following relevant goals of the Facility Management Element and the Fire Management Element from the *Land Management Plan for Rancho Jamul Ecological Reserve* (CDFG 2006):

Fac 1.0 Goal – Facility Management
Manage structures and facilities to provide wildlife-dependent public use, education, and research opportunities, while protecting sensitive biological resources. (See also Public Use Element).

Tasks:
Fac 1.5 Water Features Maintain fire hydrants, artificial ponds, wells, water tanks, aqueducts, pumps, and pipelines to support fire management, wildlife, restoration efforts, and use in the Conservation Education Center.

Fire 1.0 Goal – Pre-fire Fire Management
Develop and implement pre-fire vegetation access, treatments, and inter-agency coordination to sustain long-term ecosystem health and processes, and minimize impacts to facilities and biological and cultural resources within RJER.

Fire 2.0 Goal – Fire Suppression
Conduct wildfire suppression activities in ways that sustain long-term ecosystem health and processes, and minimize impacts to facilities and biological and cultural resources within RJER.

If the general locations for the CIP projects Res 1296-4 and P2177 as identified in the 2009 WRMP Update are determined to be unacceptable through coordination efforts with CDFG, then OWD will continue to work with CDFG to identify alternate locations for these facilities, in light of the Land Management Plan goals listed above. Whether their ultimate locations occur within or outside the Rancho Jamul Ecological Reserve, a subsequent environmental document will be necessary to evaluate the full range of potential environmental effects, tiering from the 2009 WRMP Update PEIR.

1-24 It is premature for the 2009 WRMP Update and PEIR to identify or evaluate alternate locations for CIP projects Res 1296-4 and P2177 because such decisions will be determined through OWD coordination with CDFG as part of future siting studies for these facilities. Such studies may confirm that the general locations currently identified in the PEIR for these projects are acceptable, and if so, OWD and CDFG may proceed with processing of the necessary easement documents. As indicated in response to comment 1-23 above, whether the ultimate locations for these facilities occur within or outside the CDFG Rancho Jamul Ecological Reserve, a subsequent environmental document will be necessary to evaluate the full range of potential environmental

effects. Therefore, it is not possible to include within Section 4.7 of the PEIR additional analyses of landform alteration and visual aesthetics impacts associated with alternate locations for Res 1296-4 as such information is not available nor is it warranted at this time.

1-25 In response to this comment, the following PEIR text has been revised:

Section 4.2.2.1 (Biological Resources, Regulatory Framework, Federal Regulations):

USFWS San Diego National Wildlife Refuge (NWR)

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 4.2-6). The entire San Diego NWR comprises 44,000 acres and contains important preserves of coastal sage and chaparral habitats.

Section 4.2.2.2 (Biological Resources, Regulatory Framework, State Regulations):

CDFG Ecological Reserves and Wildlife Areas

A system of 119 ecological reserves has been established throughout California to provide protection for plant and animal species and their habitats, especially those that are endangered or threatened. 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 CDFG ~~Otay Mountain Ecological Reserve and the~~ Rancho Jamul and McGinty Mountain Ecological Reserves and the Hollenbeck Canyon Wildlife Area occur within the planning area (Figure 4.2-7). In addition, a portion of the CDFG Otay Mountain Ecological Reserve occurs within the "Area of Influence" associated with the planning area.

Section 4.2.3.1 (Issue 1 – Sensitive Species and Habitats):

CIP Pump Station Projects

PS 1296-2. This new pump station would be constructed along the unpaved Proctor Valley Road, which traverses undeveloped land within the CDFG Rancho Jamul Ecological Reserve that has been disturbed by past grazing activities and grading for the dirt road; however, some areas along this road could contain sensitive biological resources. In addition, this project would be located within designated critical habitat for California gnatcatcher, Quino checkerspot butterfly and Otay tarplant (Figure 4.2-5). Therefore, construction of PS 1296-2 could have significant direct impacts to sensitive species and habitats.

Section 4.8.1.2 (Existing Land Uses, CIP Pump Station Projects):

PS 1296-2

This new pump station would be located within the Regulatory System of the planning area, along the unpaved portion of Proctor Valley Road within San Diego County, on land designated by the CDFG as the Jamul Mountain Ecological Reserve. The PS 1296-2 site and adjacent areas are undeveloped.

Section 4.8.3.1 (Issue 1 – Conflicts with Habitat Conservation and Natural Communities Conservation Plans)

Impact Analysis

As described in Section 4.8.1.1 above, Res 1296-4 and PS 1296-2 would be located within the Jamul Mountain Ecological Reserve under the County of San Diego MSCP.

Please note that no references to the Otay Mountain Ecological Reserve or Hollenbeck Canyon Wildlife Area were added to Section 4.2.3.1 (Issue 1 – Sensitive Species and Habitats), Section 4.8.1, and Section 4.8.3.1 of the PEIR because no CIP projects are identified within these CDFG lands.

1-26 In response to this comment, Section 4.2.2.2 (Biological Resources, Regulatory Framework, State Regulations) of the PEIR has been revised to address the additional regulations, as follows:

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

This section of the CCR 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.

Sections 1601 to 1603 of the California Fish and Game Code

Streambeds and other drainages that occur within ~~the proposed~~ a CIP project site are subject to regulation by the CDFG. The CDFG 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. CDFG jurisdiction typically extends to the edge of the riparian canopy and, therefore, usually encompasses a larger area than Corps jurisdiction. A Streambed Alteration Agreement must be obtained from the CDFG 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.

Sections 2080(b) and 2080(c) of the California Fish and Game Code

These sections of the Fish and Game Code establish that the CDFG 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.

1-26 cont. 14, §783.4(a) and (b), should also be provided in this section. Specifically, it is important to note that the CESA differs from the Federal Endangered Species Act by requiring that project impacts to state listed species must be minimized and fully mitigated, and that adequate funding must be ensured for implementation and monitoring of the mitigation measures.

1-27 26. The draft PEIR acknowledged that a Lake/Streambed Alteration Agreement (LSAA), pursuant to Section 1600 *et seq*. of the Fish and Game Code may be applicable to future CIP projects. However, with the exception of identifying the general riparian habitat types that may occur within the WRMP planning area, the draft PEIR does not clearly identify whether riparian/wetland areas would be directly impacted or entirely avoided. The Department's issuance of an LSAA for a project that is subject to CEQA requires CEQA compliance actions by the Department as a Responsible Agency. As such, the Department may consider the local jurisdiction's (Lead Agency's) CEQA documentation for the project. To minimize additional requirements by the Department pursuant to Section 1600 *et seq*. and/or under CEQA, the final PEIR should disclose the potential impacts on all streambeds, and associated riparian resources, and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of the LSAA. Consequently, the level of impact analysis provided in the PEIR may not be sufficient for the Department to rely on to issue an LSAA for individual CIP projects listed in the PEIR.

1-28 27. The final PEIR's mitigation and performance measures need to be revised to include a condition requiring that "prior to the commencement of any activity that will 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, the project applicant shall submit a complete Lake or Streambed Alteration Program notification package and fee to the California Department of Fish and Game." Additionally, this condition should be incorporated into Table ES-1.

Federal Regulations

1-29 28. Mitigation/Performance Measure *Bio-1B(iv)(c)* states that CIP projects requiring Federal permitting or funding will be subject to consultation under section 7 of the Endangered Species Act. However, absent a Federal nexus, projects that impact federally listed species or designated critical habitat will require consultation under section 10 of the Endangered Species Act. Please revise this mitigation measure in the final PEIR.

1-30 29. The table in Appendix B incorrectly lists the bald eagle (*Haliaeetus leucoephalus*) as a threatened species under the Endangered Species Act. The Service removed the bald

1-27 OWD is not requesting or seeking to obtain Lake/Streambed Alteration Agreements (LSAAs) for any of the CIP projects identified in the 2009 WRMP Update. As stated in response to comment 1-1 above, project-level analyses will be conducted during the design phase for future CIP projects, at which time the appropriate level of subsequent CEQA documentation will be determined by OWD. The subsequent analyses will include biological surveys for those projects listed in performance measure Bio-1A (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR). If the surveys identify the potential for impacts to biological resources, including potential impacts on streambeds and associated wetland/riparian resources under CDFG jurisdiction, then the impacts will be documented in a BTR as part of subsequent CEQA documentation (which tiers from the Final PEIR), and appropriate mitigation measures will be identified and implemented in connection with the subsequent CEQA documentation as well as any regulatory agency permit conditions, as applicable. LSAA applications will be submitted to CDFG following the OWD Board certifications of subsequent CEQA documentation for approved CIP projects that are determined to have unavoidable impacts to CDFG jurisdictional resources. Consequently, CDFG may rely on the subsequent CEQA documentation to issue LSAAs for individual CIP projects pursuant to Section 1600 *et seq.* of the Fish and Game Code.

In addition, please refer to response to comment 1-19 above regarding the commentor‟s incorrect interpretation that CDFG should be considered a "responsible agency" under CEQA, as there are no discretionary actions associated with the OWD Board approval of the 2009 WRMP Update.

1-28 Please refer to response to comment 1-26 above regarding addition of this requirement to Section 4.2.2.2 (Biological Resources, Regulatory Framework, State Regulations) of the PEIR.

1-29 In response to this comment, a new sentence has been added at the end of performance measure Bio-1B(iv)(c) (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR) to add this requirement, as follows:

c. If federal permits or funding are required for the following CIP projects (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: Res 1090-2 (California gnatcatcher and Quino checkerspot butterfly), Res 1296-4 (California gnatcatcher), Res 980-4 (Quino checkerspot butterfly), Res 860-1 (Quino checkerspot butterfly), Res 870-2 (Quino checkerspot butterfly), PS 1090-1 (California gnatcatcher and Quino checkerspot butterfly), PS 1296-2 (California gnatcatcher, Quino checkerspot butterfly and Otay tarplant), PS LOPS (Quino checkerspot butterfly), Pipeline P2177 (Quino checkerspot butterfly), R2089 (least Bell‟s vireo), and P2454 (Quino checkerspot butterfly and San Diego fairy shrimp). Conditions outlined in the Biological Opinion (BO) resulting from the Section 7 Consultations shall be implemented according to the responsible parties and the timing identified in the BO. <u>In the absence of federal permits or funding, a Section 10(a)(1)(B) permit shall be obtained for the above-listed projects.</u>

1-30 In response to this comment, the listing status for Bald eagle in Appendix B (Special Status Animals Reported or Potentially Occurring within the Planning Area) of the PEIR has been corrected, as follows:

~~FT~~<u>BEPA</u>/SE

1-30 cont. eagle from the list of federally threatened and endangered species in June of 2007. However, it is protected under the Bald and Golden Eagle Protection Act.

Alternatives Analysis

1-31 30. Because the baseline information in the draft PEIR is so general, the Wildlife Agencies are unable to provide substantive comments on the adequacy or conclusions listed in Section 6.0, *Project Alternatives*.

Figures

1-32 31. Figure 4.2-1 should be revised to show the boundaries of all Department owned-lands (i.e., Rancho Jamul Ecological Reserve and Hollenbeck Canyon Wildlife Area) and Federal lands (e.g., San Diego National Wildlife Refuge, Bureau of Land Management) that fall within the WRMP planning area. The OWD should contact the Department's GIS staff specialist, Ken Devore at 619-357-6877, for acquiring the necessary GIS mapping data to incorporate into a revised WRMP planning area map. Additionally, the various MSCP planning areas shown on this figure cannot be distinguished from one another. We recommend the map/legend key colors be revised to provide a better distinction between the County of San Diego, City of San Diego, and City of Chula Vista MSCP Subarea planning areas and the locations associated with pipeline projects.

1-33 32. It would be helpful in all the figures if the potable water facilities could be distinguished from the reclaimed water facilities (e.g., potable water shown in blue and reclaimed water in purple) on all figures.

1-31 Comment noted.

1-32 Please refer to response to comment 1-25 above regarding addition of a new Figure 4.2-6 to Section 4.2.2.2 (Biological Resources, Regulatory Framework, State Regulations) of the PEIR, depicting the CDFG Ecological Reserves and Wildlife Areas and the USFWS San Diego National Wildlife Refuge within the WRMP planning area.

The comment also requests revision of Figure 4.2-1 of the PEIR to better distinguish the County of San Diego, City of San Diego, and City of Chula Vista MSCP planning area boundaries relative to the WRMP planning area. This revision is not necessary because only the County MSCP preserve areas would be affected by future CIP projects, as addressed in the PEIR revisions identified in response to comment 1-18 above.

As stated in Section 4.2.3.1 (Issue 1 – Sensitive Species and Habitats) of the PEIR, with the exception of Pipeline P2177, it is assumed that all CIP pipelines would be installed within existing paved roadways as part of a local agency public improvement or CIP project, or concurrently with the construction of planned roadways by private developers. Therefore, none of the PEIR graphics show the CIP pipeline projects, with the exception of P2177, as they would not affect biological resources.

1-33 This revision is not necessary because it does not pertain to the adequacy of the environmental analysis in the PEIR.

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

OTAY WATER DISTRICT
2009 SEP 11 AM 9: 52

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

September 3, 2009

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

Subject: Otay Water District 2009 Water Resources Master Plan Update
SCH#: 2008101127

Dear Lisa Coburn-Boyd:

2-1

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 2, 2009, 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."

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,

for: Scott Morgan
Acting 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

Responses to Letter 2 – Governor's Office of Planning & Research, State Clearinghouse & Planning Unit

2-1 No response is necessary because it does not pertain to the adequacy of the environmental analysis in the PEIR.

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Document Details Report
State Clearinghouse Data Base

SCH# 2008101127
Project Title Otay Water District 2009 Water Resources Master Plan Update
Lead Agency Otay Water District

Type EIR Draft EIR

Description The OWD 2009 WRMP Update is intended to complement approved land use development plans and growth projections within the OWD service area and adjacent areas of influence (collectively referred to as the WRMP Planning Area), consistent with the San Diego Association of Government forecasts. The WRMP Capital Improvement Program will involve new construction and expansion of potable and recycled water conveyance and storage facilities (e.g. pipelines, pump stations and reservoirs); water supply offset projects (e.g. groundwater desalination facility, groundwater production wells, seawater desalination treatment/distribution facilities); and miscellaneous projects (e.g. air/vacuum ventilation systems, vaults/meters, bridge pipeline crossing). The PEIR will provide the basis for subsequent environmental review for these future projects.

Lead Agency Contact

Name Lisa Coburn-Boyd
Agency Otay Water District
Phone (619) 670-2219 **Fax** 619 670-8920
email lisa.coburn-boyd@otaywater.gov
Address 2554 Sweetwater Springs Boulevard
City Spring Valley **State** CA **Zip** 91978-2004

Project Location

County San Diego
City Chula Vista, Lemon Grove, San Diego
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, SR 125
Airports
Railways
Waterways Sweetwater River, Otay River
Schools various
Land Use Various

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

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Game, Region 5; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Services; California Highway Patrol; Caltrans, District 11; Department of Health Services; Integrated Waste Management Board; State Water Resources Control Board, Clean Water Program; Regional Water Quality Control Board, Region 9; Native American Heritage Commission

Date Received 07/20/2009 **Start of Review** 07/20/2009 **End of Review** 09/02/2009

Note: Blanks in data fields result from insufficient information provided by lead agency.

State Water Resources Control Board

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Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

AUG 13 2009

2009 AUG 21 AM 10: 37

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

Dear Ms. Coburn-Boyd:

DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT (PEIR) FOR OTAY WATER DISTRICT (DISTRICT); OTAY WATER DISTRICT 2009 WATER RESOURCES MASTER PLAN (WRMP) UPDATE (PROJECT); STATE CLEARINGHOUSE NO. 2008101127

We understand the District may be pursuing Clean Water State Revolving Fund (CWSRF) financing for this Project. The District may want to consider the CWSRF Program to provide funding for future construction. As a funding agency and a state agency with jurisdiction by law to preserve, enhance, and restore the quality of California's water resources, the State Water Resources Control Board (State Water Board) is providing the following information for the California Environmental Quality Act (CEQA) document prepared for the Project.

The State Water Board, Division of Financial Assistance, is responsible for administering CWSRF funds. The primary purpose for the CWSRF Program is to implement the Clean Water Act, and related state laws by providing financial assistance for wastewater treatment facilities necessary to prevent water pollution, recycle water, correct nonpoint source and storm drainage pollution problems, and provide for estuary enhancement, and thereby protect and promote health, safety and welfare of state inhabitants. The CWSRF Program provides low-interest funding equal to one-half the most recent State General Obligation Bond Rates with a 20-year term. Applications are accepted and processed continuously. Please refer to the State Water Board CWSRF website at: www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/index.shtml.

The CWSRF Program is partially funded by the U.S. Environmental Protection Agency and requires additional "CEQA-Plus" environmental documentation and review. Three information sheets are included that further explain the environmental compliance process and additional federal requirements in the CWSRF Program. In addition, an evaluation form is included for the District to submit should it pursue State Water Board funding. The State Water Board can consult directly with agencies responsible for implementing federal environmental laws and regulations. Any environmental issues raised by federal agencies or their representatives will need to be resolved prior to State Water Board approval of a CWSRF funding commitment for the proposed Project. For further information on the CWSRF Program environmental compliance process, please contact me at (916) 341-6983.

It is important to note that prior to a CWSRF funding commitment, projects are subject to provisions of the federal Endangered Species Act and must obtain approval from the U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS) for any potential effects to special status species.

California Environmental Protection Agency

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Ms. Lisa Coburn-Boyd -2- AUG 13 2009

Please be advised that the State Water Board can consult with USFWS and NMFS on behalf of the District regarding all federal special status species the Project has the potential to impact. The District will need to identify whether the Project will involve any direct effects from construction activities or indirect effects, such as growth inducement, that may affect federally-listed threatened, endangered, or candidate species that are known, or have a potential to occur on-site, in the surrounding areas, or in the service area, and to identify applicable conservation measures to reduce such effects.

CWSRF projects must comply with federal laws pertaining to cultural resources, specifically Section 106 of the National Historic Preservation Act. The State Water Board has responsibility for ensuring compliance with Section 106, and the State Water Board's Cultural Resources Officer (CRO) consults directly with the California State Historic Preservation Officer (SHPO). SHPO consultation is initiated when sufficient information is provided by the CWSRF applicant for projects having potential impacts to cultural resources. Please contact the State Water Board's CRO, Ms. Cookie Hirn, at (916) 341-5690 to find out more about the requirements, and to initiate the Section 106 process, as applicable.

Native American and Interested Party Consultation are required for Section 106 compliance:

- A Project description and map should be sent to the Native American Heritage Commission (NAHC). The NAHC will provide a list of Native American tribes and individuals that are culturally affiliated with your Project area and recommend that they all be contacted.
- A Project description and map should be sent to everyone on the list provided by the NAHC, asking for information on the Project area.
- Similar letters should be sent to local historical organizations.
- Follow-up contact should be made by phone and a phone log should be included.

Comments from the NAHC, local tribes and historical organizations affiliated with the Project area, as well as the District response to these comments should be included in the submittal to the CRO.

Other federal requirements pertinent to the Project under the CWSRF Program include the following:

A. Compliance with the federal Clean Air Act: (a) Provide air quality studies that may have been done for the Project; and (b) if the Project is in a nonattainment area or attainment area subject to a maintenance plan; (i) provide a summary of the estimated emissions (in tons per year) that are expected from both the construction and operation of the Project for each federal criteria pollutant in a nonattainment or maintenance area, and indicate if the nonattainment designation is moderate, serious, severe, or extreme; (ii) if emissions are above the federal de minimis levels, but the Project is sized to meet only the needs of current population projections that are used in the approved State Implementation Plan for air quality, quantitatively indicate how the proposed capacity increase was calculated using population projections.

B. Compliance with the Wild and Scenic Rivers Act: Identify whether or not Wild and Scenic Rivers would be potentially impacted by the Project, and include conservation measures to minimize such impacts.

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Ms. Lisa Coburn-Boyd -3- AUG 13 2009

Following are specific comments on the District's Draft PEIR:

3-1 1. On page 4.2-24, Biological Resources Mitigation Measure 1B, part ia states that:

"Coastal sage/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 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 a period longer than three (3) weeks and the contractor wishes to restart work within the breeding season window, then updated pre-construction surveys are also necessary as defined above. 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 or until after August 31."

Please discuss what would occur to gnatcatchers if construction work were to stop for less than three weeks during their breeding season, and gnatcatchers were to establish a nest within the construction area. Should this situation occur, Biological Resources mitigation Measure 1B, part ia would not protect, avoid, or reduce construction related impacts to gnatcatchers because pre-construction surveys are not required if construction stops for less than three weeks. Please revise Biological Resources Mitigation Measure 1B, part ia to address this issue.

3-2 2. Biological Mitigation Measure 1B, part ia states that "However, if the birds are observed nesting within these areas, then the adjacent construction activities shall be postponed until all nesting has ceased or until after August 31." Biological Resources Mitigation Measure 1B, part iii also states "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, or until after July 31." Please explain what would occur to nesting gnatcatchers and raptors within the Project site if they continued to nest beyond the final date of their relative breeding seasons.

3-3 3. On page 4.2-19, for the Reservoir Project (Res) 1655-1, the PEIR states that "Although the project site has been partially disturbed from grading associated with a dirt road that passes through it, sensitive habitat may exist on or adjacent to the site. Therefore, construction of Res 1655-1 could have significant direct impacts to sensitive species and habitats." Please provide additional information that analyzes the sensitive species and habitat present in the Res 1655-1 site.

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Responses to Letter 3 – State Water Resources Control Board, Division of Financial Assistance

3-1 In response to this comment, the sixth and eight sentences in performance measure Bio-1B(i)(a) (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR) have been revised, as follows:

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 ~~longer than three (3) weeks~~ 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 ~~or until after August 31~~.

3-2 Please refer to response to comment 3-1 above regarding the necessary text revision to performance measure Bio-1B(i)(a) (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR). In addition, the third sentence in performance measure Bio-1B(iii) (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR) has been revised, as follows:

iii. Ten (10) days prior to vegetation clearing, grading and/or construction activities that are scheduled to occur during the raptor nesting season (generally February 1 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~~, or until after July 31~~. Documentation of the raptor surveys and any follow-up monitoring, as necessary, shall be provided to OWD and USFWS within ten (10) days of completing the final survey or monitoring event.

3-3 Project-level analyses will be conducted during the design phase for future CIP projects, at which time the appropriate level of subsequent CEQA documentation will be determined by OWD. The subsequent analyses will include biological surveys for those projects listed in performance measure Bio-1A (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR). If the surveys identify the potential for impacts to biological resources, then the impacts will be documented in a Biological Technical Report (BTR) as part of subsequent CEQA documentation (which tiers from the Final PEIR), and appropriate mitigation measures will be identified and implemented in connection with the subsequent CEQA documentation as well as any regulatory agency permit conditions, as applicable.

Ms. Lisa Coburn-Boyd -4- AUG 13 2009

3-4 4. Page 4.2-27 states that "Although one or more recycled water pipeline alignment associated with the North District Recycled Water Concept project (R2089) could potentially fall within or adjacent to the MSCP [Multiple Species Conservation Program] wildlife corridor labeled as Corridor "I" in Figure 4.2-2, once these pipelines have been installed underground, they would not interfere substantially with the movement of any native resident or migratory fish or wildlife species." This explanation provides information to support that the pipeline, once installed, would not have an adverse effect on the movement of native residents, migratory fish, or wildlife species. Please provide information addressing any direct and indirect impacts on wildlife corridors adjacent to and within the MSCP due to the installation of the pipeline.

Thank you once again for the opportunity to review the Draft PEIR. We have no further comments on the PEIR at this time. If you have any questions or concerns about the State Water Board environmental compliance process please feel free to contact me at (916) 341-6983, or by email at MLJones@waterboards.ca.gov. For all other comments or question please contact Parker Thaler at (916) 341-7388, or by email at PThaler@waterboards.ca.gov.

Sincerely,

Michelle L. Jones
Environmental Scientist

cc: State Clearinghouse
(Re: SCH# 2008101127)
P. O. Box 3044
Sacramento, CA 95812-3044

California Environmental Protection Agency

Recycled Paper

3-4 In response to this comment, the discussion under the second question in Section 4.2.5 (CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2009 WRMP Update, Biological Resources) of the PEIR has been revised, as follows:

Would implementation of the 2009 WRMP Update interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident migratory corridors?

Although one or more recycled water pipeline alignments associated with the North District Recycled Water Concept project (R2089) could potentially fall within or adjacent to the MSCP wildlife corridor labeled as Corridor "1" in Figure 4.2-2, potential construction-related impacts to animals that may be using this wildlife corridor would be reduced to less than significant levels with implementation of noise monitoring (refer to performance measure Bio-1B(i)(b) above); temporary construction fencing (refer to performance measure Bio-1D above); and night-lighting controls (refer to performance measure Bio-1E above). Once these pipelines have been installed underground, they would not interfere substantially with the movement of any native resident or migratory fish or wildlife species. None of the remaining CIP projects under the 2009 WRMP Update would fall within or near the identified wildlife corridors, and would not restrict wildlife movements. Therefore, no further analysis is required.

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

September 3, 2009

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

Dear Ms. Coburn-Boyd:

Comments on the Draft Program Environmental Impact
Report for the Otay Water District Water Resources Master Plan

The Metropolitan Water District of Southern California (Metropolitan) has reviewed a copy of the Draft Program Environmental Impact Report (DPEIR) for the Otay Water District (Otay) Water Resources Master Plan (WRMP). The purpose of the 2009 WRMP Update is to revise Otay's 2002 WRMP; identify the potable and recycled water CIP facilities, and associated probable cost estimates, to meet projected water market demands within the Otay planning area and adjacent areas of influence; and develop a phased approach to implement the CIP projects.

The DPEIR also states the objective of streamlining the environmental review of future projects within this DPEIR and subsequent tiered CEQA documents. This objective, and related concerns, is the basis for Metropolitan's comments on the DPEIR as a potentially affected public agency and Responsible Agency under the California Environmental Quality Act (CEQA).

4-1 Otay has previously proposed, and prepared separate CEQA documentation for, the annexation of the Sycuan Indian Reservation (proposed Annexation) into its service area. Metropolitan has commented on this proposed Annexation in letters dated May 12, 2009, February 12, 2009, and December 29, 2008. These comments are incorporated hereto by reference. While the DPEIR only refers to the proposed Annexation in passing, several projects addressed in the DPEIR have been previously identified as potential Water Supply Offset projects that would facilitate the proposed Annexation (in Otay's 2009 Notice of Preparation of an Environmental Impact Report on the Reorganization of the Otay Water District to make Municipal Services Available to the Sycuan Indian Reservation [NOP]). While Metropolitan applauds Otay's desire to streamline specific project-related CEQA analysis through use of a Program EIR for the WRMP,

700 N. Alameda Street, Los Angeles, California 90012 • Mailing Address: Box 54153, Los Angeles, California 90054-0153 • Telephone (213) 217-6000

Responses to Letter 4 – Metropolitan Water District of Southern California

4-1 Comment noted. It is acknowledged that the separate comments provided by the Metropolitan Water District (MWD) to OWD regarding the proposed annexation of the Sycuan tribal lands into its service area have been incorporated by reference into this comment letter on the 2009 WRMP Update PEIR.

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Ms. Lisa Coburn-Boyd
Page 2
September 3, 2009

4-1 cont. Metropolitan's concerns expressed in the previous letters relative to the proposed Annexation apply to the treatment of these projects in the DPEIR and subsequent tiered CEQA documents as well.

4-2 The Executive Summary of the DPEIR (page ES-4) addresses a comment raised at a public scoping meeting about the proposed Annexation and construction of groundwater wells. Otay's response to this comment is that "the District did not envision any such project for inclusion in the 2009 WRMP Update. Any such plans identified in the future would be required to undergo Local Agency Formation Commission (LAFCO) studies and NEPA/CEQA compliance similar to any other public or private water supply development project." Accordingly, the DPEIR does not address the proposed Annexation, nor any impacts associated with providing water to the Sycuan Reservation. However, Section 4 of the DPEIR (page 4.0-15) addresses *Cumulative Projects on Tribal Lands (Sycuan Reservation)*, where it identifies the proposed Annexation, and describes "planned development" on the Sycuan Reservation, including a new hotel and commercial center, and expansion of the existing casino, medical center, and fire/police department. The DPEIR fails to mention that this planned development would require annexation of the Sycuan Reservation to Otay, as well as the San Diego County Water Authority, and Metropolitan's service areas.

4-3 Otay's 2009 NOP (page 4-5) for the proposed Annexation identified eight Water Supply Development Program projects in which the "Sycuan will participate … to completely offset any municipal, treated water made available to Sycuan." The DPEIR identifies these projects (Table 3-6, and pages 3-11, 3-12), and three of them are evaluated programmatically in the DPEIR. However, there is no discussion of the relationship of these projects to the proposed Annexation in the DPEIR. The DPEIR also identifies a proposed 16-inch pipeline in Dehesa Road (P2414). Metropolitan is concerned that subsequent tiered analyses of the proposed Annexation and, or of these Water Supply and pipeline projects may result in improper piecemealing of potential adverse effects resulting from the proposed Annexation, and we request that a complete and comprehensive analysis of all potential impacts related to the proposed Annexation be provided in subsequent CEQA documentation.

We appreciate the opportunity to provide input to your planning process and we look forward to receiving a response to our comments on the DPEIR, as well as future environmental and planning documentation related to these specific projects. If we can be of further assistance, please contact Ethel Young at (213) 217-7677.

4-2 The comment mistakenly assumes that referencing the development plans of the Sycuan Tribe in Section 4.0 (Scope and Format of Environmental Impact Analysis, Cumulative Impacts and Mitigation) of the PEIR constitutes a form of endorsement by OWD of those cumulative projects and the associated annexation requirements. To clarify this point, the discussion under "Cumulative Projects on Tribal Lands (Sycuan Reservation)" has been revised, as follows:

Cumulative Projects on Tribal Lands (Sycuan Reservation)

OWD currently does not provide water service to tribal lands. ~~As shown on Figure 3-1~~However, the Sycuan ~~Reservation is proposed for annexation~~ Band of Kumeyaay Indians (the "Tribe") has commenced the process of annexing 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. OWD is preparing an EIR evaluating the environmental impacts associated with such facilities. 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 ~~Reservation~~ 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.

As acknowledged in Comment 4-1, OWD is preparing an EIR evaluating the environmental impacts associated with proposed annexation of Sycuan tribal lands into its service area ("draft Annexation EIR"). According to Section 15150 of the CEQA Guidelines, "An EIR or Negative Declaration may incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public." As the draft Annexation EIR is still under preparation, and is therefore not "a matter of public record", it is inappropriate and unnecessary to "incorporate by reference" into the 2009 WRMP Update PEIR the preliminary analyses from OWD"s current preparation of the draft Annexation EIR. To the extent that any of the OWD CIP projects addressed in the 2009 WRMP PEIR are described and evaluated in more detail in the draft Annexation EIR, the latter would be considered an ***appropriate subsequent environmental document*** to the 2009 WRMP PEIR.

4-3 The PEIR does not indicate any relationship between the Sycuan annexation and any of the alternative water supply projects listed in Table 3-6 of the PEIR because no such relationships exist. OWD"s efforts to develop alternative water sources are separate and apart from any MWD or SDCWA condition for offsets. OWD may prepare subsequent EIRs or other appropriate environmental documents for some or all of the alternative water supply projects listed in Table 3-6 of the PEIR, or any additional projects that may be identified in the future, when such projects are ready for the development stage. OWD included descriptions of some of the alternative water supply projects listed in Table 3-6 of the PEIR in the draft Annexation EIR only because MWD and SDCWA requested that OWD assist Sycuan to meet offset obligations imposed on the Tribe by MWD and SDCWA in connection with the proposed annexation. None of OWD"s alternative water supply projects have been fully established. However, if OWD is able to develop an alternative water source, and if MWD and SDCWA demand offsets, then OWD will allow Sycuan and any other interested entity to "purchase" an allocation of OWD"s alternative water supplies to comply with their "offset" requirements.

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Regarding the concern that evaluation of Pipeline P2414 would represent a potential conflict with the "project piecemealing" provision of CEQA, due to its treatment in both the 2009 WRMP Update PEIR and the draft Annexation EIR, please note that this CIP project is not evaluated in any level of detail in the 2009 WRMP Update PEIR because it is assumed that all CIP pipelines, with the exception of P2177, would be installed within existing paved roadways as part of a local agency public improvement or CIP project, or concurrently with the construction of planned roadways by private developers, as stated in Section 4.2.3.1 (Issue 1 – Sensitive Species and Habitats) of the PEIR. Whether or not P2414 is evaluated in the draft Annexation EIR, and regardless of the level of analysis given to the project in that document as determined by OWD, there is no evidence to support the assertion that the treatment of P2414 in both documents would constitute a potential conflict with the "project piecemealing" provision of CEQA, especially given the lack of detailed consideration of this project in the 2009 WRMP Update PEIR.

San Diego County Water Authority
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OTAY WATER DISTRICT
2009 AUG 11 AM 10:01

August 10, 2009

Ms. Lisa Coburn-Boyd
Otay Water District
2554 Sweetwater Springs Blvd.
Spring Valley, Ca 91978-2096

Subject: Comments on the Notice of Availability of a Draft Program Environmental Impact Report (PEIR) for Otay Water District 2009 Water Resources Master Plan (WRMP) Update

Dear Ms. Coburn-Boyd:

Thank you for providing the San Diego County Water Authority (Water Authority) with a copy of the above-referenced document. The Water Authority has reviewed the relevant portions of the document and offers the following comments.

5-1 ▪ General COMMENT: It would be helpful to the reader if there were a table in the Executive Summary or Project Description chapter that lists projects being covered in this PEIR, i.e., the projects depicted graphically in Figure 3-2. It is difficult to determine from reading Tables 3-1 through Table 3-6 which components have previously completed CEQA (and therefore not covered by this document) and which components are being evaluated at a program level in this document.

5-2 ▪ Section 3.3 Background, pg. 3-4 states: "To address the uncertainties surrounding imported water supplies because of potential drought shortages or emergency seismic conditions, in addition to the rising costs of imported water, the OWD has prepared an Integrated Water Resources Plan (IWRP) to develop a flexible, long-term strategy for its future supply portfolio. The 2007 IWRP identifies new supply options beyond the planned facility expansions and upgrades through 2010." COMMENT: The Water Authority respectfully requests a copy of the OWD 2007 IWRP on CD.

5-3 ▪ Section 3.4.1 Purpose, pg. 3-5 states: "The CIP projects identified in the 2009 WRMP Update will ensure an adequate, reliable, flexible, and cost effective potable and recycled water delivery system commensurate with growth within the OWD planning area and adjacent areas of influence, consistent with the San Diego Association of Government (SANDAG) forecasts through 2030."

A public agency providing a safe and reliable water supply to the San Diego region

Responses to Letter 5 – San Diego County Water Authority

5-1 In response to this comment, Tables 3-1 through 3-7 in Section 3.0 (Project Description) of the PEIR have been revised, as follows:

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

Project No.	~~Exhibit Reference No.~~ Previous CEQA	Project Description	Capacity (MG)
Phase II (2009-2016)			
P2040	~~W009~~No	Res 1655-1	0.5
P2037	~~W037~~Yes	Res 980-3(1)	13.0
P2143	~~W143~~Yes	Res 1296-3(1)	2.0
		Total Phase II	**15.5**
Phase III (2017-Ultimate)			
P2142	~~W142~~No	Res 1296-4	10.0
P2176	~~W2176~~No	Res 1090-2	1.0
P2228	~~W228~~No	Res 870-2	10.0
P2233	~~W233~~Yes	Res 640-3(2)	10.0
P2431	~~W431~~No	Res 980-4	5.0
		Total Phase III	**25.0**
		Total All Phases	**40.5**

G = million gallons

All of these projects are evaluated at a programmatic level in this PEIR, with the exception of Res 980-3 and Res 1296-3 which have been previously approved along with certified CEQA documents.

A previous environmental document~~s~~ ~~have~~ has been completed for ~~these~~ this project~~s~~ and ~~are~~ is incorporated by reference.

Table 3-2. Potable Water Pump Station CIP Projects(1)

Project No.	~~Exhibit Reference No.~~ Previous CEQA~~(1)~~	Project Description	Capacity (gpm)
Phase II (2009-2016)			
P2258	~~W258~~No	PS Lower Otay Pump Station(2)	18,000
P2357	~~W357~~No	PS 657-1/850-1 Demo	--
P2391	~~W391~~No	PS Perdue WTP	3,500
		Total Phase II	**21,500**
Phase III (2017-Ultimate)			
P2083	~~W083~~No	PS 870-2(3)	11,000
P2002	~~W002~~No	PS 1296-2	10,000
P2174	~~W174~~No	PS 1090-1(4)	280
P2256	~~W256~~No	PS 978-2	1,500
P2392	~~W392~~No	PS Lower Otay PS Expansion(2)	9,000
		Total Phase III	**31,780**
		Total All Phases	**53,280**

gpm = gallons per minute

(1) ~~Information from 2009 WRMP Update~~ All of these projects are evaluated at a programmatic level in this PEIR.

(2) The initial phase of the Lower Otay Pump Station would involve a permanent station to replace the existing temporary station, with a capacity of 9,000 gpm. The ultimate phase would increase the capacity of the station to 18,000 gpm.

(3) New pump station to replace the existing 571-1 PS and 870-1 PS.

(4) New pump station to replace existing facility.

Table 3-3. Potable Water Pipeline CIP Projects[1]

Project No.	~~Map Reference No.~~ Previous CEQA[1]	Project Description	Length (feet)
Phase II (2009 - 2016)			
P2010	~~W010~~No	Sweetwater Reservoir Pipeline	4,720
P2009	~~W009~~Yes	PL 36-in Regulatory Site[2]	25,500
P2038	~~W038~~Yes	PL 12-in Hidden Mesa Road[2]	8,600
P2058	~~W058~~No	PL 24-in Proctor Valley Road	7,800
P2066	~~W066~~No	PL 30-in Otay Mesa R/W	4,100
P2104	~~W104~~No	PL 12-in La Media Road	4,900
P2107	~~W107~~No	PL 12-in Rock Mountain Road	4,000
P2171	~~W171~~No	PL 30-in Proctor Valley Road	2,100
P2181	~~W181~~No	PL 30-in Proctor Valley Road	8,800
P2190	~~W190~~No	PL 10-in Jamul Highlands Road	1,300
P2203	~~W203~~No	PL 30-in Proctor Valley Road	4,000
P2318	~~W318~~No	PL 20-in 657 Summit Cross-ties	--
P2325	~~W325~~No	PL 12-in Coastal Hills Drive	2,300
P2356	~~W356~~No	PL 12-in Jamul Drive	3,600
P2387	~~W387~~No	PL 12-in Steel Canyon Road	1,800
P2399	~~W399~~No	PL 30-in 980 Reservoirs	2,200
P2402	~~W402~~No	PL 12-in La Media Road	5,400
P2414	~~W414~~No	PL 16-in Dehesa Road	2,700
P2430	~~W430~~No	PL 30-in Proctor Valley Road	12,360
P2135	~~W135~~No	PL 20-in Otay Lakes Road	3,200
P2471	~~W471~~No	PRS 850/657 at La Presa PS	--
		Total Phase II	**66,400**
Phase III (2017 - Ultimate)			
P2053	~~W053~~No	PL 20-in Campo Road	5,800
P2056	~~W056~~No	PL 16-in Jamul Drive	2,200
P2106	~~W106~~No	PL 12-in La Media Road	4,400
P2116	~~W116~~No	PL 12-in Hunte Parkway	3,000
P2122	~~W122~~No	PL 20-in OTC	2,400
P2137	~~W137~~No	PL 20-in Otay Lakes Road	1,600
P2138	~~W138~~No	PL 20-in Village 13	2,900
P2139	~~W139~~No	PL 20-in Village 13	1,500
P2146	No	PL 20-in Village 13	4,500
P2148	~~W148~~No	PL - 16-Inch Jamacha Boulevard	4,300
P2156	~~W156~~No	PL 12-in Olive Vista Drive	1,200
P2177[1][~~3~~2]	~~W177~~No	PL 30-in to 1296-4 Res.	4,300
P2188	~~W188~~No	PL 24-in Campo Road	3,400
P2198	~~W198~~No	PL 24-in 832 PZ	8,500
P2204	~~W204~~No	PL 24-in Pioneer Way	3,100
P2374	~~W374~~No	PL 30-in 870-2 Res	400
P2401	~~W401~~No	PL 12-in Otay Valley Road	17,700

Project No.	~~Map Reference No.~~ Previous CEQA[1]	Project Description	Length (feet)
P2404	~~W404~~No	PL 12-in Rock Mountain Road	8,000
P2403	~~W403~~No	PL 12-in Heritage Road	6,800
P2427	~~W142~~No	PL 20-in Otay Lakes Road	4,000
P2435	~~W435~~No	PL 30-in Proctor Valley Road	15,700
P2405	~~W405~~No	PL/PRS Main Street	1,200
P2406	~~W406~~No	PL/PRS EastLake Parkway	2,400
P2411	~~W411~~No	PL/PRS 1296/944 Upgrade	--
P2412	~~W412~~No	PL/PRS 944/832 Upgrade	--
P2413	~~W413~~No	PL/PRS 1296/803 PRS	--
		Total Phase III	**~~126,800~~109,300**
		Total All Phases	**~~187,200~~175,700**

(1) ~~Information from 2009 WRMP Update~~ With the exception of P2177 which would traverse the CDFG Rancho Jamul Ecological Reserve, none of these projects are depicted graphically in this PEIR because it is assumed that all CIP pipelines would be installed within existing paved roadways as part of a local agency public improvement or CIP project, or concurrently with the construction of planned roadways by private developers.

(2) ~~Previous environmental documents have been completed for these projects and are incorporated by reference.~~

(3) Location shown in Figure 3-2, and depicted graphically in this PEIR.

Table 3-4. Recycled Water Storage and Pumping CIP Projects[1]

Project No.	Previous CEQA	Project Description	Capacity
Phase II (2009-2016)			
R2091	No	PS 927-1 upgrade	7,500 gpm
R2034	No	Res 860-1	4.0 MG

(1) All of these projects are evaluated at a programmatic level in this PEIR.
gpm = gallons per minute
MG = million gallons

Table 3-5. Recycled Water Pipeline CIP Projects[(1)]

Project No.	Project Description	Length (feet)
Phase II (2009 - 2016)		
R2028	RecPL - 8-Inch, 680 Zone, Heritage Road - Santa Victoria/Otay Valley	8,100
R2042	RecPL - 8-Inch, 944 Zone, Rock Mountain Road - SR-125/EastLake	3,430
R2047	RecPL - 12-Inch, 680 Zone, La Media Road - Birch/Rock Mountain	4,880
R2048	RecPL - Otay Mesa Distribution Pipelines and Conversions	--
R2058	RecPL - 16-Inch, 860 Zone, Airway Road - Otay Mesa/Alta	10,700
R2077	RecPL - 24-Inch, 860 Zone, Alta Road - Alta Gate/Airway	7,900
R2082	RecPL - 24-Inch, 680 Zone, Olympic Parkway - Village 2/Heritage	3,100
R2083	RecPL - 20-Inch, 680 Zone, Heritage Road - Village 2/Olympic	1,280
R2084	RecPL - 20-Inch, 680 Zone, Village 2 - Heritage/La Media	5,000
R2085	RecPL - 20-Inch, 680 Zone, La Media - State/Olympic	2,740
R2087	RecPL - 24-inch, 944 Zone, Wueste Road - Olympic/Otay WTP	13,500
R2088	RecPL - 30-inch, 860 Zone, County Jail - Roll Reservoir/860-1 Reservoir	4,000
	Total Phase II	**64,630**
Phase III (2017 - Ultimate)		
R2037	RecPL - 8-Inch, 680 Zone, La Media Road - Rock Mountain/Otay Valley	4,050
R2038	RecPL - 8-Inch, 680 Zone, Rock Mountain Road - La Media/Otay Valley	7,300
R2043	RecPL - 8-Inch, 944 Zone, Rock Mountain Road - La Media/SR 125	2,600
R2073	RecPL - 24-Inch, 860 Zone, Alta Road - Airway/Border	3,170
R2078	RecPL - 8-Inch, 680 Zone, Otay Valley Road - SR 125/Heritage	13,920
R2079	RecPL - 6-Inch, 450 Zone, Otay Valley Road - Otay Valley/Entertainment	1,730
R2080	RecPL - 24-Inch, 680 Zone, Olympic Parkway - Medical Center/Heritage	2,840
R3015	RecPL - North District Distribution Pipelines and Conversions	--
	Total Phase III	**35,610**
	Total All Phases	**100,240**

(1) None of these projects are depicted graphically in this PEIR because it is assumed that all CIP pipelines would be installed within existing paved roadways as part of a local agency public improvement or CIP project, or concurrently with the construction of planned roadways by private developers. In addition, no previous environmental documents have been completed for these projects.

Table 3-6. Water Supply Projects[(1)]

Project No.	Project Description
Phase II	
P2450	Otay River Groundwater Desalinization Facility
P2048	Otay Mesa Recycled Water System Link
P2481	Middle Sweetwater River Basin Groundwater Well
R2093	City of Chula Vista MBR Reclamation Plant
P2451	Rosarito Seawater Desalinization Facility
P2434	Rancho Del Rey Groundwater Well
P2482	Otay Mesa Lot 7 Groundwater Well
R2094	Potable Irrigation Meters to Recycled Water Conversions
Phase III	
R2089	North District Recycled Water Concept

(1) No previous environmental documents have been completed for these projects. Please note that P2434, P2482, and R2089 are evaluated at a programmatic level in this PEIR, while the remaining projects will undergo separate CEQA compliance.

Table 3-7. Miscellaneous CIP Projects[(1)]

Project No.	Project Description
Phase II	
P2267	36-Inch Main Pumpouts and Air/Vacuum Ventilation Installations
P2370	Dorchester Reservoir and Pump Station Demolition
P2454	Vaults and Meter, Alta Road and Use Area
Phase III	
P2390	Siempre Viva Bridge Pipeline Crossings
R2048	RecPL - Misc Distribution Pipelines

(1) With the exception of P2370 and P2454, the remaining three projects are not depicted graphically in this PEIR because they would be installed within existing paved roadways or concurrently with the construction of planned roadways/bridges. In addition, no previous environmental documents have been completed for these projects.

5-2 Comment noted.

5-3 It is acknowledged that Res 980-4 which is identified within the adjacent area of influence for the WRMP planning area must be annexed into the OWD/SDCWA/MWD service areas prior to its construction. As stated in response to comment 4-2 (MWD letter), it is inappropriate and unnecessary to "incorporate by reference" into the 2009 WRMP Update PEIR the preliminary analyses from OWD"s current preparation of the draft EIR for the Sycuan Annexation, or the draft EIRs for any other annexation activities. To the extent that any of the OWD CIP projects addressed in the 2009 WRMP PEIR are described and evaluated in more detail in the draft EIRs for any annexation activities, such EIRs would be considered ***appropriate subsequent environmental documents*** to the 2009 WRMP PEIR.

Otay Water District 2009 Water Resources Master Plan Update
Draft Program EIR Comment Letter
August 10, 2009
Page 2 of 2

5-3 cont. COMMENT: We note that the facilities and water supply projects being proposed within the adjacent areas of influence that will be served by Water Authority supplies cannot be constructed prior to annexation of those areas into the Water Authority service area. The PEIR should also include reference to annexations currently in progress and will undergo separate CEQA analysis, i.e., Sycuan and Peaceful Valley.

5-4
- Section 3.4.4.3 Water Supply Projects, pg. 3-11, Table 3-6: COMMENT: It would be helpful to organize Table 3-6 projects into Phase II or Phase III for ease of understanding the timing for these water supply projects (see Tables 3-1 through 3-5 for example.) In the text following Table 3-6, it is also lacking the timing for some of the projects listed in Table 3-6. Please clarify the timing for all of the projects listed.

Again, thank you for the opportunity to comment. Please retain the Water Authority on your mailing list to receive the Final PEIR and other information concerning this project. If you have any questions, please contact Ms. Kelley Gage of my staff at: (858) 522-6763.

Sincerely,

Laurence Purcell

Laurence Purcell
Water Resources Manager

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5-4 Please refer to response to comment 5-1 above regarding revisions to Table 3-6 (Water Supply Projects) in Section 3.0 (Project Description) of the PEIR to differentiate the timing of these projects between Phase II and Phase III.

CITY OF
CHULA VISTA
PLANNING & BUILDING DEPARTMENT

OTAY WATER DISTRICT
2009 SEP -8 AM 10: 16

September 3, 2009

Ms. Lisa Coburn-Boyd
Otay Water District
2554 Sweetwater Springs Blvd.
Spring Valley, California 91978-2096

Re: Draft PEIR for the Otay Water District 2009 Water Resources Master Plan Update (SCH 2008101127)

Dear Ms. Coburn-Boyd,

The City of Chula Vista appreciates the opportunity to review and comment on the above referenced project. As we understand it the project revises the Otay Water District's (OWD) 2002 WRMP to meet projected water market demands within the OWD service area and adjacent areas of influence. The 2009 WRMP Update identifies the necessary potable and recycled water Capital Improvement Program (CIP) facilities (e.g., pump stations, storage reservoirs, transmission mains, groundwater wells), and associated probable cost estimates, and develops a phased approach to implement the CIP projects during the following time frames: 2009-2016 (Phase II) and 2017-Ultimate (Phase III). In addition to the CIP facilities, the WRMP identified miscellaneous CIP projects that 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. The projects identified in the 2009 WRMP Update are intended to ensure an adequate, reliable, flexible, and cost effective potable and recycled water delivery system commensurate with growth within the WRMP planning area, consistent with the San Diego Association of Government (SANDAG) forecasts through 2030.

The PEIR evaluates the projects listed above at a "Program" level and subsequent environmental review, per the California Environmental Quality Act (CEQA) will be prepared for each project at the "Project" level when more detailed plans are available.

Chapter 1.0 - Introduction:

6-1 1. Page 3-15, Table 3-8 does not include the City of Chula Vista as a Responsible Agency. The project will require permits from the City of Chula Vista Public Works Department, Engineering Division prior to beginning any excavations in the public right-of-way or City property. All street repair work shall be in compliance with current City of Chula Vista trench repair standards. Additionally if it is determined that there are impacts to Chula Vista Covered Species per the City's MSCP Subarea Plan a Habitat Loss and Incidental Take (HLIT) Permit will be required.

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Responses to Letter 6 – City of Chula Vista

6-1 The comment provides an incorrect interpretation of a "responsible agency" under CEQA, as defined in Section 21069 of the Public Resources Code and Section 15381 of the State CEQA Guidelines. As stated in Section 15381 of the CEQA Guidelines, "For the purposes of CEQA, the term "Responsible Agency" includes all public agencies other than the Lead Agency which have **discretionary approval power over the project** (**emphasis added**)." None of the agencies listed in Table 3-8, including the City of Chula Vista, have "discretionary approval authority" over the 2009 WRMP Update itself, and are therefore not considered "responsible agencies" under CEQA.

Subsequent to approval of the 2009 WRMP Update by the OWD Board of Directors (Lead Agency under CEQA), several permits and other authorizations must be obtained from the agencies listed in Table 3-8 (Potential Permits and Approvals), Section 3.0 (Project Description), of the PEIR for applicable CIP projects. A Habitat Loss and Incidental Take (HLIT) Permit would not be required from the City of Chula Vista because only the County MSCP preserve areas would be affected by future CIP projects, as addressed in the PEIR revisions identified in response to comment 1-18 (USFWS/CDFG letter). Therefore, none of the CIP projects would result in impacts to "Covered Species" or Tier I, II and III habitats, per the City"s MSCP Subarea Plan.

Furthermore, it is not anticipated that a Trench Excavation Permit and/or Traffic Control Permit would be required from the City of Chula Vista for pipeline trenching and excavation activities within City street rights-of-way because Section 53091 of the California Government Code exempts from local zoning ordinances the siting and construction of facilities used for the production, generation, storage or transmission of water. Pursuant to this Section, OWD has absolute exemptions from local zoning and building permit requirements in connection with all pipelines and appurtenant facilities required by OWD to provide its services. In addition, OWD typically obtains its own separate easements and access rights when a right of way is granted to a municipality. To the extent OWD does not have separate easements or other access rights to any particular right of way, certain statutes including Section 71697 of the Water Code and Section 10101 of the Public Contract Code grant OWD certain rights to install and operate pipelines and related facilities. However, if a municipality adopts a regulation or requirement to control the location of water facilities within the public right of way pursuant to "police powers" to protect the health, safety and welfare of persons and property, OWD may need to comply with those regulations or requirements. In those circumstances, the determination of what, if any, local regulations apply will have to be made by OWD and the municipality on a case-by-case basis.

Page 2
Comments – OWD 2009 WRMP PEIR
September 3, 2009

Chapter 3 – Project Description

6-2 2. Page 3-1 - Project Location: Clarity/understanding would be aided by revising Figure 3-2 to delineate the district boundaries, as well as the operating system areas referenced in the text.

6-3 3. Page 3-5 - Description of Projects: The section uses numeric references to projects and it is difficult at best to understand what the projects entail and where they are located. Figure 3-2 depicts only a limited number of projects. Figure 3-2 should be expanded, or additional figures added, so that the locations of the subject facilities (that are presented in Tables 3-1 through 3-7) can be clearly understood.

6-4 4. Pg. 3-7 - Pipeline Projects: Statements assume that many pipeline projects will be constructed concurrently with road improvements and therefore will not require open cut or traffic control. This assumption is too broad. Absent an evaluation of assumed development phasing and/or a mitigation measure(s) requiring such concurrent construction, it is entirely probable that the timing for water facility improvement funding and construction may not match with roadway construction, thus requiring traffic control and other according permits and requirements. Such probable circumstances also need to be addressed in the Section 3.4.6 and Table 3-8 with regard to local permits, approvals and requirements, as well as in Section 4.8 Land Use and Planning.

6-5 5. Page 3-7, Tables 3-1 through 3-8: As noted in Comment 3, maps or exhibits locating the projects should be included in the PEIR since the WRMP was not distributed with the PEIR or included on the CD. As written, one must have the WRMP in front of them as only exhibit reference numbers from the WRMP are provided.

6-6 6. Page 3-11- Recycled Water System and Pipeline Projects: Similar to Comment 4 above, the section assumes that recycled water pipelines will also be constructed concurrently with road improvements and therefore will not require open cut or traffic control. The same comments apply here.

6-7 7. Page 3-11 Water Supply Projects: Please amend Table 3-6 to help clarify which six of the projects are not analyzed in the PEIR.

6-8 8. Page 3-13 - Phasing: The section clearly indicates that phasing is not known and is subject to change based on a variety of factors. This runs contrary to earlier statements (noted above) that pipelines are assumed concurrent with new roadway construction, and therefore no requirements or mitigations for open cut trenching, traffic control, etc. Absent specific phasing requirements and mitigations, concurrent assumptions cannot be made, and Section 3.4.6 should be clarified to add these provisions accordingly.

6-9 9. Page 3-13 – Permits, Approvals, and Regulatory Requirements: The section appropriately notes that there will be numerous federal, state and local regulations and permit

CITY OF CHULA VISTA

6-2 In response to this comment, Figure 3-2 (2009 WRMP Planning Area and CIP Projects) of the PEIR has been revised to delineate the Regulatory, Central Area, and Otay Mesa system boundaries. The general locations of the Hillsdale and La Presa systems are labeled on the figure; however, these systems are scattered throughout various overlapping hydraulic gradients coincident with the Regulatory System and, therefore, cannot be differentiated.

6-3 All above-ground CIP project locations are shown in the PEIR figures. With the exception of P2177 which would traverse the CDFG Rancho Jamul Ecological Reserve, none of the CIP pipeline projects are shown on this or any other graphic in the PEIR because it is assumed that the pipelines would be installed within existing paved roadways as part of a local agency public improvement or CIP project, or concurrently with the construction of planned roadways by private developers.

6-4 In response to this comment, the discussion under "Pipeline Projects" in Section 3.4.4.1 (Potable Water System) of the PEIR has been revised, as follows:

Pipeline Projects

The CIP projects listed in Table 3-3 are required in order to meet the Phase II and Phase III 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. ~~Many of these~~ Since the CIP pipeline projects are assumed to be ~~constructed~~ installed concurrently with existing road improvements ~~projects and therefore~~ 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.

Construction-related fugitive dust and noise impacts associated with the CIP pipeline projects are addressed in Section 4.1.3.2 (Issue 2 – Consistency with Air Quality Standards) and Section 4.9.3.2 (Issue 2 – Temporary Increases in Ambient Noise), respectively. Once the pipelines are installed below ground, they would not result in potential incompatibilities with surrounding land uses; therefore, treatment of these CIP projects in Section 4.8 (Land Use and Planning) of the PEIR is not warranted.

6-5 A stated in response to comment 6-3 above, all above-ground CIP project locations are shown in the PEIR figures. Please refer to response to comment 5-1 (SDCWA letter) regarding removal of WRMP Exhibit/Map Reference Numbers from Tables 3-1 through 3-3 in Section 3.0 (Project Description) of the PEIR.

6-6 In response to this comment, the discussion under "Pipeline Projects" in Section 3.4.4.2 (Recycled Water System) of the PEIR has been revised, as follows:

Pipeline Projects

The CIP recycled water storage and pump station projects shown on Figure 3-2 and listed in Table 3-5 are required in order to meet the Phase II and Phase III transmission pipeline needs

of the OWD recycled 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. ~~Many of these~~ Since the CIP pipeline projects are assumed to be ~~constructed~~ installed concurrently with existing road improvements ~~projects and therefore~~ 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.

Please refer to response to comment 6-4 above regarding why treatment of these CIP projects in Section 4.8 (Land Use and Planning) of the PEIR is not warranted.

6-7 Please refer to response to comment 5-1 (SDCWA letter) regarding reference to a new footnote (1) in Table 3-6 (Water Supply Projects) to clarify which six of the projects are not evaluated in the PEIR.

6-8 Please refer to responses to comments 6-1, 6-4 and 6-6 above regarding the PEIR text revisions to clarify the phasing assumptions and potential City of Chula Vista permit requirements for CIP pipeline projects.

6-9 Although Section 53091 of the California Government Code exempts from local zoning ordinances the siting and construction of facilities used for the production, generation, storage or transmission of water, OWD typically works informally with the local jurisdictions within which water facilities are being proposed to accommodate land use compatibility requirements that OWD deems reasonable. With respect to the 2009 WRMP Update, any above-ground CIP project (i.e., pump stations, water storage tanks) constructed within an urban area would be designed to be architecturally compatible with its surrounding community character, as required by Aes-SCP-1 (Section 4.7.3.1, Issue 1- Scenic Vistas, of the PEIR). In response to this comment, Aes-SCP-1 has been renamed Aes-PDF-1and the introductory paragraph revised to clarify this requirement, as follows:

Aes-~~SCP~~PDF-1 In accordance with WAS and standard operating procedures, the following design, landscaping and irrigation measures will be implemented ~~upon completion of construction of~~ for CIP projects:

As indicated in Section 15168 of the CEQA Guidelines, a PEIR can be prepared on a series of related actions that can be characterized as one large project. The preparation of subsequent environmental documents that tier from a PEIR may be appropriate when the sequence of analysis is from a program-level to a project-level. This approach can eliminate repetitive discussions, and allows tiered environmental documents to focus solely on the issues specific to the project to which such documents pertains. The CIP projects addressed in the 2009 WRMP Update can be considered a series of related actions that will be implemented over time, depending on many variables. The PEIR identifies general locations for above-ground CIP projects (i.e., pump stations, water storage tanks); detailed siting studies to determine their exact locations will be undertaken at the project design stage based primarily on hydraulic parameters, among other factors. Since precise locations of some of these projects are unknown, identification of specific local agency objectives, policies and standards that apply to the design of those

facilities within potentially affected communities would be speculative. Rather, OWD will ensure that an appropriate land use policy conformity analysis is included within future Initial Studies in connection with subsequent CEQA documentation for applicable CIP projects, based on detailed siting studies and potentially affected communities. As stated in response to comment 1-1 (USFWS/CDFG letter), project-level analyses will be conducted during the design phase for future CIP projects, at which time the appropriate level of subsequent CEQA documentation will be determined by OWD. Therefore, it is premature for Section 4.8 (Land Use and Planning) of the PEIR to address a detailed land use policy conformity analysis for the above-ground CIP projects.

The concerns expressed in this comment regarding potential siting considerations are well taken insofar as they might pertain to the City‟s "police powers" to regulate matters of health and safety. Since the PEIR is focused on OWD‟s CIP projects and facilities that **might** be needed in the future, it would not be appropriate or efficient to evaluate potential siting issues in detail at this time. An absolute exemption from local zoning control is set forth in Government Code Section 53091(e), and an absolute exemption from local building permit requirements is set forth in Government Code Section 53091(d). These absolute exemptions are available to OWD in connection with any facilities that actually perform the functions of producing, generating, storing or transmitting water (e.g., treatment plants, reservoirs, pump stations). These absolute exemptions would apply to any "compatibility" or "aesthetics" considerations within any City regulation or policy. If, in the future, it is determined that OWD‟s absolute exemptions for a specific CIP project directly conflicts with a City health and safety requirement, then OWD and the City of Chula Vista can work together to address the relevant issues.

6-9 cont. requirements. Yet it goes on to effectively make no reference (in text or in Table 3-8) to any permits or approvals from any of the affected cities. As noted in other comments, there are a variety of local permits or approvals that are applicable and need to be addressed in the document. It is also not potentially appropriate for the PEIR to selectively narrow itself to only addressing those specific local objectives, policies and standards that "support implementation of water storage and transmission facilities". For example, in Chula Vista there is General Plan objectives and policies that regard siting of facilities in a manner that are not disruptive or impacting to surrounding areas. Such provisions are directly applicable to the appropriate siting and design of water storage, pumping or treatment facilities, but are not accordingly presented and addressed in the PEIR.

Section 4.2: Biological Resources:

6-10 10. Existing setting/Impact section: The EIR relies solely on database surveys as the baseline biological data and inappropriately defers site specific surveys until prior to construction. At a minimum, current surveys must be conducted now for known general impact areas in order to adequately assess impacts.

6-11 11. The EIR does not quantify the acreages associated with each identified habitat type within the project area nor does the document quantify the acreages that will be impacted as a result of project construction and implementation. The EIR must clarify, in tablature format (by jurisdiction and project), the general estimated acreages and habitat types (including disturbed and developed areas) that will be directly affected by the proposed project. Impacts to Chula Vista Covered Species and Tier I, II, and III habitats shall be mitigated in accordance with the City's Habitat Loss and Incidental Take (HLIT) Ordinance.

6-12 12. The EIR does not appear to evaluate impacts to biological resources under the context of the City of Chula Vista's MSCP Subarea Plan. Please include a comprehensive discussion of the City's MSCP requirements and all applicable requirements.

6-13 13. The EIR must include a full discussion of how the project complies with the City's adjacency requirements, Wetlands Protection Program, as well as Planned and Future Facilities provisions (Please refer to Section 6.3.3 of the City's MSCP Subarea Plan). In addition, unless determined to be exempt, all development is subject to compliance with the City's HLIT Ordinance for areas covered within the City's MSCP area. Please revise the document to include an evaluation of biological resources covered under the City's MSCP Subarea Plan and list the City's HLIT permit as a potential discretionary permit within the City of Chula Vista.

6-14 14. The City of Chula Vista requires the following standard mitigation measure to used for impacts to raptors or MBTA species. This language was developed in conjunction with

6-10 As stated in response to comment 1-1 (USFWS/CDFG letter), project-level analyses will be conducted during the design phase for future CIP projects, at which time the appropriate level of subsequent CEQA documentation will be determined by OWD. The subsequent analyses will include biological surveys for those projects listed in performance measure Bio-1A (Section 4.2.3.1, Issue 1 – Sensitive Species and Habitats, of the PEIR). If the surveys identify the potential for impacts to biological resources, then the impacts will be documented in a BTR as part of subsequent CEQA documentation (which tiers from the Final PEIR), and appropriate mitigation measures will be identified and implemented in connection with the subsequent CEQA documentation as well as any regulatory agency permit conditions, as applicable.

6-11 As stated in response to comment 1-1 (USFWS/CDFG letter), detailed development plans are not available for any of the CIP projects addressed in the 2009 WRMP Update and the PEIR – only general project locations are known at this time. As such, there is insufficient detail to estimate the overall level of biological impacts and mitigation required to implement the 2009 WRMP Update. Such uncertainty does not preclude the use of a program EIR, as defined in Section 15168 of the CEQA Guidelines, to establish performance standards that allow for more rigorous, tiered CEQA review of applicable CIP projects that are specifically identified within the text of the listed performance measures. This is the approach used in the 2009 WRMP Update PEIR, in compliance with the stated CEQA Guidelines.

As stated in response to comment 6-1 above, City of Chula Vista HLIT permits would not be required because none of the CIP projects would result in impacts to "Covered Species" or Tier I, II and III habitats, per the City‟s MSCP Subarea Plan.

6-12 This revision is not necessary because only the County MSCP preserve areas would be affected by future CIP projects, as addressed in the PEIR revisions identified in response to comment 1-18 (USFWS/CDFG letter).

6-13 This revision is not necessary because only the County MSCP preserve areas would be affected by future CIP projects, as addressed in the PEIR revisions identified in response to comment 1-18 (USFWS/CDFG letter). As stated in response to comment 6-1 above, City of Chula Vista HLIT permits would not be required because none of the CIP projects would result in impacts to "Covered Species" or Tier I, II and III habitats, per the City‟s MSCP Subarea Plan.

6-14 Performance measure Bio-1B(iii) is adequate as written. As Lead Agency under CEQA, OWD does not need to obtain approvals from the City of Chula Vista for any of the conditions outlined in performance measure Bio-1B(iii).

6-14 cont. the Wildlife Agencies. Please add the following language to the EIR for impacts within the City of Chula Vista:

> *"To avoid any direct impacts to raptors and/or any migratory birds, removal of habitat that supports active nests on the proposed area of disturbance should occur outside of the breeding season for these species (January 15 to August 31). If removal of habitat on the proposed area of disturbance must occur during the breeding season, the applicant shall retain a City-approved biologist to conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). The applicant shall submit the results of the pre-construction survey to the City for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan as deemed appropriate by the City, shall be prepared and include proposed measures to be implemented to ensure that disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's Mitigation Monitor shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction."*

6-15 15. Mitigation Measures: As mentioned above in Comment No.10, the PEIR inappropriately defers surveys until prior to construction. Pre-construction surveys are appropriate as a mitigation measure for the project, but only as a supplement to current survey data. Please revise this section accordingly.

Section 4.7 - Landform Alterations and Visual Impacts

6-16 16. Page 4.7-2 states that there are no scenic topographic features within the Central Area and that Poggi Canyon, Otay Valley and Otay River traverse the southerly service area boundary. Poggi Canyon is located within the Central System. Rock Mountain is not mentioned in the description of either the Central Area or the Otay Mesa. The map does not clearly show where the boundary between the Central Area System and the Otay Mesa System are, however it appears that Rock Mountain is also located in the Central Area system.

6-17 17. Page 4.7-3: States the OWD is not subject to local land use plans, policies and ordinances. Please clarify that OWD is not subject to local land use plans, policies and ordinances only for property owned by OWD. Facilities constructed on land in the City of Chula Vista not owned by OWD are subject to all Chula Vista regulations.

6-18 18. Page 4.7-4 states that the City of Chula Vista General Plan identifies five scenic vistas as valuable: Upper and Lower Otay reservoir, Sweetwater Reservoir and the San Miguel and Mother Miguel mountains. This is not an accurate description of scenic resources as

6-15 Please refer to response to comment 6-10 above.

6-16 In response to this comment, Figure 4.7-2 (Scenic Resources Within the Planning Area) has been revised to include labels showing the locations of Poggi Canyon and Rock Mountain, and the first paragraph under "Central Area System" in Section 4.7.1.2 (South District, Landform Alteration and Visual Aesthetics) of the PEIR has been revised, as follows:

4.7.1.2 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~~ Poggi Canyon and Rock Mountain are scenic topographic features within this service area~~,~~. 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 City of Chula Vista General Plan. T~~t~~he 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.

In addition, Section 4.7.3.1 (Issue 1 – Scenic Vistas) of the PEIR has been revised, as indicated below, to include Poggi Canyon and Rock Mountain in the "Impact Analysis" (after the discussion of "Upper and Lower Otay Reservoirs"), as they are designated scenic resources per the Chula Vista General Plan.

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 4.7-2). The nearest above-ground CIP projects to these scenic resources would be located approximately three miles to the southeast (P2482) and 3.5 miles to the northeast (PS 927-1). Due to the large distances from these natural features, these CIP projects would not impact these scenic vistas.

6-17 As stated in response to comment 6-9 above, OWD will ensure that an appropriate land use policy conformity analysis is included within future Initial Studies in connection with subsequent CEQA documentation for applicable above-ground CIP projects, based on detailed siting studies and potentially affected communities. It is premature for Section 4.8 (Land Use and Planning) of the PEIR to address a detailed land use policy conformity analysis since precise locations of some of these projects are unknown and identification of specific local agency objectives, policies and standards that apply to the design of those facilities within potentially affected communities would be speculative. Such policies include those from the General Plans of the County of San Diego, City of San Diego, and City of Chula Vista, as well as Chula Vista General Development Plans (GDPs) and Sectional Planning Area (SPA) Plans, relative to design considerations pertaining to applicable above-ground CIP projects such as siting, compatibility, access, public safety, and aesthetics, among others.

In addition, the comment appears to suggest that, to the extent pipelines or other OWD facilities are installed by a developer within land owned by a developer, compliance with the City"s

regulations will be required. While developers are required to comply with all City requirements in connection with the construction of their projects, including water facilities for their projects, the PEIR does not apply to developer projects. Furthermore, Sections 53091(d) and (e) of the California Government Code do not contain a limitation based on who owns the land at the time the facilities are installed.

6-18 In response to this comment, the discussion under "City of Chula Vista General Plan" in Section 4.7.2.2 (Local Policies and Ordinances, Regulatory Framework, Landform Alteration and Visual Aesthetics) of the PEIR has been revised, as follows:

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 ~~five~~ scenic ~~vistas as valuable~~resources that occur within the planning area: ~~Upper and Lower Otay reservoir; Sweetwater Reservoir; and the~~ San Miguel and Mother Miguel mountains; Sweetwater Reservoir; Upper and Lower Otay reservoirs; Poggi Canyon; Rock Mountain; and Otay River Valley.

Please refer to response to comment 6-16 above regarding the additional analysis of Poggi Canyon and Rock Mountain. In addition, Section 4.7.3.1 (Issue 1 – Scenic Vistas) of the PEIR has been revised, as indicated below, to include Otay River Valley in the "Impact Analysis" (after the discussion of "Poggi Canyon and Rock Mountain"), as they are designated scenic resources per the Chula Vista General Plan.

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 PS LOPS (adjacent to the City of San Diego OWTP at the southern tip of Lower Otay Reservoir) located about one-half-mile to the northeast, and PS 870-2 (adjacent to the Richard J. Donovan State Correctional Facility and East Mesa Detention Facility within San Diego County) 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 PS 870-2 project site (at approximately 350 feet AMSL). Due to the large distances from these natural features and intervening topography, these CIP projects would not impact this scenic vista.

In addition, the discussion under Section 4.7.5 (CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2009 WRMP Update, Landform Alteration and Visual Aesthetics) of the PEIR has been revised, as follows:

Would implementation of any CIP projects under the 2009 WRMP 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, and PS 927-1 is located just north of Olympic Parkway. However, existing development is located between both projects and the Scenic Roadway segments which would screen views of these projects from motorists traveling along these roads. Therefore, implementation of these projects would not impact views from State scenic highways or Chula Vista Scenic Roadways, and no further analysis is required.

6-18 cont. described in the Land Use and Transportation Element (LUT) of the City's General Plan. The PEIR should be revised to accurately portray the scenic resources in the City consistent with General Plan Section 3.1, page LUT 15.

6-19 19. Section 4.7 discusses the potential visual impacts of the proposed facilities. However, the PEIR does not provide an adequate description of where all of the facilities are (see Comment 3 above). Without an accurate description of the location of the proposed facilities it is impossible to determine if the analysis of impacts is accurate. Section 4.7 does not include photographs of the existing conditions. There is not sufficient detail about individual proposed project design to conclude if the proposed mitigation measures are adequate to mitigate impacts t less than significant. The PEIR should indicate in addition to the proposed mitigation measures at the Program level a project level analysis of potential visual impacts will be prepared at the Project level once the project design has been finalized.

Section 4.8 - Land Use:

6-20 20. Although we cannot directly determine from content in the PEIR, it is our understanding through prior contacts with OWD staff and consultants that the updated land use capacities from the 2005 Chula Vista General Plan (CVGP) were used in preparation of the WRMP. It is also our understanding that future locations of pipelines and other facilities in the WRMP were sited/designed in accordance with the 2005 CVGP

6-21 21. Although still pending at this time, please be advised that the City has begun evaluation of proposed General Plan Amendments within the Otay Ranch project area that will affect land use capacities (in an upward direction), as well as alignment of arterial and major roads, that will have an affect upon the WRMP. Those amendments are anticipated for hearing consideration toward the end of 2011.

6-22 22. Pump stations, storage reservoirs, transmission mains and groundwater wells are designated as Public/Quasi Public Uses in the City of Chula Vista (Section 19.54.020[M] Chula Vista Municipal Code). Such uses are considered Unclassified Uses and are subject to the requirements of Section 19.54 of the City's Zoning code. As such the location and operation shall be subject to review and the issuance of a conditional use permit in accordance with Section 19.40.060 of the City's Zoning code. The purpose of this review shall be to determine that the characteristics of such use shall not be incompatible with the type of uses permitted in the surrounding areas.

6-23 23. Page 4.8-1 - Land Use Planning: The last sentence of the introductory paragraph states that because CIP pipelines would be buried, it is not necessary to address them in the analysis. However, the document notes that some pipelines may occur outside of roadways and therefore have a physical environmental effect. These pipeline conditions should be accordingly discussed.

6-19 As stated in response to comment 6-3 above, all above-ground CIP project locations are shown in the PEIR figures. Section 4.7 of the PEIR does not include photographs of existing conditions at the potential locations for the above-ground CIP projects because some of these project locations may change based on detailed siting studies to be performed at the design phase for these projects, as stated in response to comment 6-9 above. Detailed design information is not available for any of the CIP projects addressed in the 2009 WRMP Update. OWD will ensure that an appropriate visual analysis is included within future Initial Studies in connection with subsequent CEQA documentation for applicable above-ground CIP projects. As stated in response to comment 1-1 (USFWS/CDFG letter), project-level analyses will be conducted during the design phase for future CIP projects, at which time the appropriate level of subsequent CEQA documentation will be determined by OWD. With implementation of Aes-PDF-1 (please refer to response to comment 6-9 for revisions) and any additional project-specific mitigation measures identified in subsequent CEQA documentation, potential visual impacts associated with above-ground CIP projects would be reduced to a less than significant level. Therefore, in response to this comment, the discussion under "Mitigation/Performance Measures" in Section 4.7.3.2 (Issue 2 – Visual Character and Quality) of the PEIR has been revised, as follows:

Mitigation/Performance Measures

Implementation of Aes-~~SCP~~PDF-1 and any additional project-specific mitigation measures identified in subsequent CEQA documentation would reduce visual impacts resulting from construction activities and ~~operation~~ design of above-ground CIP projects under the 2009 WRMP Update to a less than significant level~~; therefore, no additional mitigation is required~~.

6-20 The information pertaining to the Otay Ranch GDP from the Chula Vista General Plan, as provided in Section 4.0 (Cumulative Projects Identified in the 2002 WRMP) of the PEIR, was used in the preparation of the 2009 WRMP Update. This comment does not address the adequacy or accuracy of information presented in the PEIR.

6-21 Comment noted.

6-22 As stated in numerous locations throughout the PEIR and these responses to comments, Section 53091 of the California Government Code exempts from local zoning ordinances the siting and construction of facilities used for the production, generation, storage or transmission of water. Therefore, a conditional use permit is not required from the City of Chula Vista for any CIP projects under the 2009 WRMP Update that would be located within the City or in any other jurisdiction within which these projects would be constructed. In addition, this comment is in conflict with comment 6-27, which acknowledges that the above-referenced "code section exempts water facility project approvals from local zoning ordinances and building codes, . . ."

6-23 CIP project P2177 would be installed outside of roadways and would therefore result in a physical environmental effect which is appropriately evaluated in the following sections of the PEIR: Section 4.1.3.2 (Issue 2 – Consistency with Air Quality Standards, Construction Emissions), Section 4.2.3.1 (Issue 1 – Sensitive Species and Habitats), Section 4.3.3.2 (Issue 2 – Archaeological Resources), and Section 4.6.3.1 (Issue 1 – Water Quality, Construction Impacts). As stated in response to comment 6-4 above, once the pipelines are installed below ground, they would not result in potential incompatibilities with surrounding land uses; therefore, treatment of these CIP projects in Section 4.8 (Land Use and Planning) of the PEIR is not warranted.

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6-24 24. Page 4.8-1 - Existing Land Uses: Rather than describing existing use settings in the service area and its districts, the text dismisses the discussion as impractical. Some discussion should be provided at an according program level. Clearly understanding how much of the WRMP proposals are within existing developed neighborhoods and roadways, versus those in vacant developing areas is directly relevant to understanding and addressing the local affects of the proposed projects. Also, the current discussion is limited to only a fraction of the projects that are presented in Tables 3-1 through 3-7. Maps showing the sites and surrounding land use conditions are needed to understand context. Overall, while the discussions make brief reference to surrounding land use, there is no discussion of the existing "planning" conditions for any of the areas (re land use designation or zoning of land, etc.).

6-25 25. Page 4.8-2 - CIP Pump Station Projects Site PS 927-1 Upgrade: The text notes the site as along Wueste Rd., which does not match with the location as shown on Figure 3-2. The Figure shows the site much further to the west along what would appear to be Eastlake Pkwy. Please correct accordingly.

6-26 26. Page 4.8-3 - Lower Otay Pump Station Expansion: While the area surrounding the site is undeveloped, some of it has habitat constraints under the MSCP, and the area is also within the concept plan area for the Otay Valley Regional Park. This is an example of how the current write-ups (as noted in Comment 23 above) do not sufficiently discuss the existing "planning" setting.

6-27 27. Page 4.8-4 - Regulatory Framework - We respectfully disagree with the statement that California Government Code Section 53091 infers that water facility planning activities are exempt from due consideration of the planning policies of local land use agencies such as Chula Vista. While that code section exempts water facility project approvals from local zoning ordinances and building codes, it does not put aside the applicability of planning considerations with regard to the potential affects of proposed facilities on surrounding areas, or with regard to the need for providing adequate access, etc. Siting, compatibility, safety and aesthetics are often of relevance and the subject of local policy. Narrowing the discussion to only those selective local General Plan policies that support the provision of water infrastructure is insufficient. There is other relevant policy that should be addressed as noted below.

6-28 28. Page 4.8-4 - Local, City of Chula Vista General Plan: Rather than indicating a 1989 Plan with amendments, the text should state that the CVGP was comprehensively updated in December 2005. The Plan includes <u>six</u> Elements – Land Use and Transportation is one Element. Delete the reference to "relatively small" portion on reference to CV. CV makes up a fairly good portion of WRMP area, with a substantial populations and large number of planned facilities; certainly more that the portion of the WRMP area in the City of San Diego.

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6-24 Section 4.8.1 (Existing Land Uses) of the PEIR describes the existing land uses at and surrounding each of the CIP reservoir and pump station projects under the 2009 WRMP Update. This discussion provides a clear description of the projects that would be located within existing developed neighborhoods versus those in undeveloped, vacant or developing areas. As such, this information is relevant to understanding the potential land use compatibility impacts which will be addressed in subsequent CEQA documentation for applicable CIP projects. As stated in response to comment 6-9 above, OWD will ensure that an appropriate land use compatibility analysis is included within future Initial Studies in connection with subsequent CEQA documentation for applicable above-ground CIP projects, based on detailed siting studies and potentially affected communities. It is premature for Section 4.8 (Land Use and Planning) of the PEIR to address a detailed land use compatibility analysis since precise locations of some of these projects are unknown.

As stated in response to comment 6-3 above, all above-ground CIP project locations are shown in the PEIR figures.

As stated in numerous locations throughout the PEIR and these responses to comments, Section 53091 of the California Government Code exempts from local zoning ordinances the siting and construction of facilities used for the production, generation, storage or transmission of water. Therefore, a discussion of existing "planning" conditions for each of the applicable above-ground CIP project locations (i.e., zoning and land use designations) is not warranted.

6-25 In response to this comment, the location of the PS 927-1 Upgrade project has been corrected in the second sentence in Section 4.8.1.2 (CIP Pump Station Projects, Existing Land Uses), as follows:

PS 927-1 Upgrade

This existing pump station to be upgraded is located within the Central Area System of the planning area, adjacent to the existing 680-1 Reservoir within the City of Chula Vista. The PS 927-1 site is situated along ~~Wueste Road~~ Eastlake Parkway within a developed area that contains low- and medium-density residences.

6-26 As stated in the PEIR revisions identified in response to comment 1-18 (USFWS/CDFG letter), the PS LOPS project would be located within a "Take Authorized Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. In addition, lands to the west of this project site are designated "Other Agency – Preserve Planning Efforts" in the Chula Vista MSCP Subarea Plan. These "100% Preserve" areas are included within the USFWS San Diego National Wildlife Refuge and the Otay Valley Regional Park (OVRP) Concept Plan. Therefore, in response to this comment, the following PEIR text has been revised:

Section 4.8.1.2 (CIP Pump Station Projects, Existing Land Uses):

~~*Lower Otay Pump Station Expansion*~~*PS LOPS*

This new pump station would be located within the Central Area System of the planning area, adjacent to the existing Lower Otay Pump Station (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 "Other Agency – Preserve Planning Efforts" in the Chula Vista MSCP Subarea Plan. These "100% Preserve" areas are included within the USFWS San Diego National Wildlife Refuge (NWR), Otay-Sweetwater Unit, and the Otay Valley Regional Park (OVRP) Concept Plan.

Section 4.8.2.2 (Local Regulatory Framework, MSCPs), new paragraph between the second and third paragraphs:

Both the Otay-Sweetwater Unit of the San Diego NWR and the OVRP encompass portions of "100% Preserve" 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.

Section 4.8.3.1 (Issue 1 – Conflicts with Habitat Conservation and Natural Communities Conservation Plans):

Impact Analysis

As described in Section 4.8.1.1 above, Res 1296-4 would be located within the Jamul Mountain Ecological Reserve under the County of San Diego MSCP. In addition, the following CIP projects under the 2009 WRMP Update would be located within or adjacent to the MSCP reserves identified in Figure 4.2-1 of this PEIR: PS 978-2, PS 1296-2, Res 640-3, Res 860-1, Res 870-2, Res 1090-2, Res 980-4, PS LOPS, and the Rancho Del Rey Groundwater Well. In addition, lands to the west of PS LOPS are designated "Other Agency – Preserve Planning Efforts" in the Chula Vista MSCP Subarea Plan. These "100% Preserve" 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 San Diego, and City of Chula Vista 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 PS 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 adjacent MSCP reserves, and potential conflicts with these HCPs/NCCPs, to below a level of significance.

6-27 As stated in numerous locations throughout the PEIR and these responses to comments, Section 53091 of the California Government Code exempts from local zoning ordinances the siting and construction of facilities used for the production, generation, storage or transmission of water. Please refer to response to comment 6-17 above.

6-28 In response to this comment, the first paragraph under "City of Chula Vista General Plan" in Section 4.8.2.2 (Local Regulatory Framework, Land Use and Planning) of the PEIR has been revised, as follows:

City of Chula Vista General Plan

The General Plan for the City of Chula Vista was ~~adopted in 1989, and amended~~ comprehensively updated in December 2005. It includes the following ~~eight~~ six elements: Land Use~~,~~ and Transportation, Economic Development, Housing, Public Facilities and Services, Environmental, and Growth Management. ~~A relatively small~~The southwest portion of the ~~WRMP~~ planning area ~~(southeast portion of the Central Area System)~~ is within the City of Chula Vista. The Public Facilities and Services Element of the City General Plan includes the following policies that support the provision of water infrastructure:

As stated in numerous locations throughout the PEIR and these responses to comments, Section 53091 of the California Government Code exempts from local zoning ordinances the siting and construction of facilities used for the production, generation, storage or transmission of water. Please refer to response to comment 6-17 above.

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6-28 cont. There are a number of other relevant CVGP policies than the three listed from the PFS Element, and that regard considerations as to siting, compatibility and aesthetics among others. The discussion should be expanded to consider the following additional GP policies; LUT 4.2, 4.3, 6.2, 7.4, 10.6, 10.7; PFS 1.6, 2.3.

Many of the areas in eastern Chula Vista in which proposed WRMP projects will occur are also subject to General Development Plans and Sectional Planning Area (SPA) Plans which implement the CVGP. These plans should be checked as well.

6-29 29. Pg. 4.8-11 – Section 4.8.5: Similar to Comment 27 above, we disagree with the statement that planning policies of local land use agencies are irrelevant, and summarily deemed not significant or not applicable. The response to the question should be substantiated by due analysis of consistency (or not) with relevant land use policy.

6-30 30. Pg. 4.8-12: References should be corrected to the 2005 CVGP, and should also note other applicable Elements including Land Use and Transportation. Per Comment 28 above, it may also be necessary to reference relevant GDP and SPA Plans as they apply.

We look forward to reviewing the Final EIR for the project and would be happy to meet with you to discuss the project further. Please contact me at (619) 585-5707 if you have any questions regarding this matter.

Sincerely,

Marilyn R.F. Ponseggi
Principal Planner

Cc: Ed Batchelder, Advanced Planning Manager
Marisa Lundstedt, Principal Planner

CITY OF CHULA VISTA

6-29 As stated in numerous locations throughout the PEIR and these responses to comments, Section 53091 of the California Government Code exempts from local zoning ordinances the siting and construction of facilities used for the production, generation, storage or transmission of water. Please refer to response to comment 6-17 above.

6-30 In response to this comment, the 2005 reference to the Chula Vista General Plan in Section 4.8.6 (References, Land Use and Planning) of the PEIR has been revised, as follows:

> ~~Planning and Building Department,~~ City of Chula Vista. 200~~5~~8. ~~*Public Facilities and Services Element*~~*General Plan*. December ~~2005~~.

Because it is premature for Section 4.8 (Land Use and Planning) of the PEIR to address a detailed land use compatibility analysis, as precise locations of some of the applicable above-ground CIP projects are unknown, referencing of potentially relevant Chula Vista GDPs and SPA Plans is not warranted.

San Diego County Archaeological Society, Inc.

Environmental Review Committee

15 August 2009

2009 AUG 18 AM 9:47

OTAY WATER DISTRICT

To: Ms. Lisa Coburn-Boyd
Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley, California 91978-2096

Subject: Draft Program Environmental Impact Report
Otay Water District 2009 Water Resources 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.

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

Regarding subsection 4.3.3.1 (Historical Resources):

7-1 1. The correct age for triggering evaluation of historical resources is 45 years, not 50. A major reason for doing so is ensuring that resources do not reach the age of 50 between the time the environmental review occurs and when the impacts actually occur. It appears that the authors of the report did consider one structure (PS 657-1) that is currently less than 50 years old. This and another that is currently 50 years old (PS 850-1) are stated to be "not architecturally distinctive, are unlikely to yield any important information about historic periods or individuals, and would be very unlikely to qualify for the CRHR." However, no citation is provided to indicate that this assessment was made by a qualified professional, and no qualified person is listed in Chapter 8.0, the List of Preparers. Absent that, the conclusion is unsupported and the opinion in the Cultural Resources Issue 1 Summary that no significant impacts will occur and that no mitigation is required is questionable.

Regarding subsection 4.3.3.2 (Archaeological Resources):

7-2 2. The Impact Analysis portion of this subsection considers only that archaeological resources could be impacted by grading, trenching and excavation. While these do hold the potential to impact archaeological resources, so do equipment and material staging areas.

7-3 3. The same portion of the subsection cites one cultural resources investigation that was performed five years ago for one 10 acre parcel, at RES 640-1. There is no indication that any investigations by a qualified archaeologist have been performed for any other areas that would be impacted. Unless individual, project level studies are done and

Responses to Letter 7 – San Diego County Archaeological Society, Inc.

7-1 After confirmation with the State Historic Preservation Officer, the historic building evaluation trigger in the PEIR has been changed to 45 years. Therefore, in response to this comment, the following PEIR text has been revised.

Section 4.3.2.1 (Federal Regulatory Framework, Cultural Resources), fourth sentence under "The National Historic Preservation Act (NHPA) of 1966":

> Structures and features must usually be at least ~~50~~ 45 years old to be considered for listing on the NRHP, barring exceptional circumstances.

Section 4.3.3.1 (Issue 1 – Historical Resources), first sentence in the sixth paragraph under "Standards of Significance":

> 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 ~~50~~ 45 years old and retain physical integrity relevant to its period of significance.

In addition, the following PEIR text in Section 4.3.3.1 (Issue 1 – Historical Resources) of the PEIR has been revised to address new Project Design Features (PDFs) requiring a historical building assessment prior to demolition of PS 657-1 and PS 850-1 to ensure appropriate treatment of these structures by a qualified architectural historian. This assessment will be performed as part of a future Initial Study in connection with subsequent CEQA documentation for the PS 657-1/PS 850-1 Demolition project. As stated in response to comment 1-1 (USFWS/CDFG letter), project-level analyses will be conducted during the design phase for this CIP project, at which time the appropriate level of subsequent CEQA documentation will be determined by OWD.

Cultural Resources Issue 1 Summary

Would implementation of the 2009 WRMP Update cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5?

Impact: ~~None of the buildings or structures that would be affected by the 2009 WRMP Update qualify as historical resources as defined in 15064.5. Therefore, implementation of the 2009 WRMP Update would not result in a substantial adverse~~ Implementation of a historical building assessment prior to demolition of PS 657-1 and PS 850-1, and a subsequent documentation/treatment program as necessary, would reduce impacts to potential historical resources.	**Mitigation:** No further mitigation is required.
Significance Before Mitigation: ~~No Impact~~Less than significant.	**Significance After Mitigation:** No Impact.

Project Design Features/Standard Construction Practices

~~There are no~~ Implementation of the 2009 WRMP Update would include, but would not be limited to, the following PDFs ~~or SCPs identified~~ to reduce ~~potential~~ impacts to potential historical resources.

Cul-PDF-1 Approximately six months prior to demolition of PS 657-1 and PS 850-1, 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:

- 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.
- 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.
- 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.

Impact Analysis

The buildings that would be demolished under the 2009 WRMP Update would include two pump stations on one site (PS 657-1 and PS 850-1), a chlorine disinfection facility on the site of Res 870-2, and P2370. 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 850-1 are both ~~roughly~~ over 50 years of age, being built in 1957 and 1959, respectively. ~~Although~~As these buildings are of the age to potentially be considered historical resources, ~~they are not architecturally distinctive, are unlikely to yield any important information about historic periods or individuals, and would be very unlikely to qualify for the CRHR. Therefore, implementation of the 2009 WRMP Update would not cause a~~

~~substantial adverse change in the significance of an historical resource~~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 PS 657-1 and PS 850-1 under the 2009 WRMP Update to a less than significant level.

Mitigation/Performance Measures

If one or both of the existing pump station structures associated with the PS 657-1/PS 850-1 Demolition project are determined to be historical structures according to Cul-PDF-1, then i~~I~~mplementation of ~~the 2009 WRMP Update would not cause a substantial adverse change in the significance of an historical resource~~Cul-PDF-2 would reduce impacts to these potential historical resources to a less than significant level; therefore, no further mitigation is required.

7-2 In response to this comment, the first sentence in the second paragraph under "Impact Analysis" in Section 4.3.3.2 (Issue 2 – Archaeological Resources) of the PEIR has been revised, as follows:

> With the exception of Res 640-3, PS 927-1, PS 1090-1, PS 657-1/850-1, and P2370, ground-disturbing activities (e.g., grading, trenching, excavation) and equipment/material staging areas associated with the construction of CIP reservoirs and pump stations under the 2009 WRMP 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 previously been developed.

7-3 As required by performance measure Cul-2A (Section 4.3.3.2, Issue 2 – Archaeological Resources, of the PEIR), subsequent investigations will be performed for all CIP pipeline projects to determine the potential for encountering buried cultural resources. These investigations will be conducted as part of future Initial Studies in connection with subsequent CEQA documentation for these CIP projects. As stated in response to comment 1-1 (USFWS/CDFG letter), project-level analyses will be conducted during the design phase for future CIP projects, at which time the appropriate level of subsequent CEQA documentation will be determined by OWD. Therefore, in response to this comment, performance measure Cul-2A has been revised, as indicated below, to ensure SDCAS is included in the public review of subsequent CEQA documentation containing the results of the above-mentioned cultural resources investigations. If it is determined that native soils would be disturbed by pipeline trenching activities, then a cultural resources monitoring program shall be implemented for applicable pipeline projects in accordance with measures Cul-2B through Cul-2C. These measures would also be implemented for the CIP projects listed in Cul-2B.

> ***Cul-2A*** During the design phase for all CIP pipeline projects within the 2009 WRMP Update, including R2089, P2267, P2454, and R2048, 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 pipeline trenching activities, then a cultural resources monitoring program shall be implemented in accordance with measures Cul-2B through Cul-2C.

7-3 cont. circulated for public review, this is an unacceptable deferral of disclosure of project impacts. Please confirm that such project-level environmental analyses will occur, and that SDCAS will be included in their public review.

7-4 4. The Mitigation/Performance Measures portion of this subsection provides no indication that a qualified archaeologist has reviewed the overall project and, based on the characteristics of the various individual elements of it, developed appropriate mitigation measures. The List of Preparers in Chapter 8.0 does not include anyone with expertise in archeological resources. Thus, this entire subsection is of dubious validity.

7-5 5. Actually, Mitigation Measure Cul-2C displays perfectly the unfamiliarity of the DPEIR authors with local cultural resource management. It repeatedly cites the San Diego Museum of Man, for notification of discoveries, determination of their significance, for consultation on curation, etc. The Museum of Man does not perform these functions and does not have on staff persons qualified to do so. In over 30 years of reviewing environmental documents for SDCAS, the undersigned has never encountered a proposal to have the Museum of Man fulfill these duties. It is not at all clear why the DPEIR authors thought the Museum of Man could and wrote it into Cul-2C.

7-6 6. Mitigation Measure Cul-2A talks of how decisions will be made on whether archaeological monitoring will be required without saying who makes that decision. It should have specified that a qualified archaeologist make the call on what mitigation measures are required for a particular action.

7-7 7. Mitigation Measure Cul-2B fails to require that a Native American monitor also be present for the activities where an archaeological monitor is required.

7-8 8. Paragraph iii of Mitigation Measure Cul-2C states "If the site contains human remains, as part of the data recovery plan, consult with the appropriate parties such as the Medical Examiner, NAHC, MLD, and/or San Diego Museum of Man." The legal requirements for treatment of human remains, addressed as Issue 3 in subsection 4.3.3.3, don't permit the "or" in "and/or".

7-9 9. Curiously, Cul-2C and subsection 4.3.3.3, which both address treatment of human remains, do not refer to each other.

7-10 10. Paragraph ii of Mitigation Measure Cul-2C states that, if a resource meets CRHR standards, "OWD shall reconsider project plans" and implement "project modifications that would allow the site to be preserved intact". But it then states that "If no such measures are feasible, then the impact shall be considered significant and unavoidable." Given this possibility, it is impossible to flatly state, as the Cultural Resources Issue 2 Summary does, that the significance after mitigation is "less than significant". Significant and non-mitigable impacts require overriding findings by the District, findings which cannot be made on the basis of the information currently available.

7-11 11. Given the substantial portion of the project area that is in the unincorporated area of the county, we recommend adoption of wording for cultural resources mitigation measures similar to that adopted by the County's Land Use and Environment Group in 2006, as *Report Format and Content Requirements: Cultural Resources: Archaeological and Historic Resources*. That document is available on the County's website, at http://www.sdcounty.ca.gov/dplu/docs/Cultural_Report_Format.pdf
A generic version of the recommended wording was developed by the San Diego Archaeological Center, in conjunction with County staff. A copy can be obtained by contacting SDAC at (760) 291-0370, or by emailing the Center's Director, Cindy Stankowski, at cstankowski@sandiegoarchaeology.org.

7-4 As indicated in the revisions to performance measure Cul-2A (please refer to response to comment 7-3 above), a qualified archaeologist will be involved in the review of future CIP pipelines to determine the potential for encountering buried cultural resources, as part of subsequent CEQA documentation for these projects. Regarding the comment questioning the validity of the technical information and analysis in Section 4.3.3.2 (Issue 2 – Archaeological Resources) of the PEIR, please note that CEQA Guidelines establish that contributing authors of an EIR need not be experts. As stated in Section 15003(i) of the Guidelines, "CEQA does not require technical perfection in an EIR, but rather adequacy, completeness, and a good-faith effort at full disclosure." Further, Section 15149(b) of the Guidelines states that "in its intended usage, an EIR is not a technical document that can be prepared only by a registered professional." Therefore, along with the revisions to the PEIR text as identified in these responses to comments from the SDCAS, OWD believes that the information and analysis contained in the above-referenced PEIR section adequately satisfies the CEQA standards for a programmatic evaluation of the potential environmental effects associated with implementation of the 2009 WRMP Update, in accordance with Section 15168 of the Guidelines. As stated in response to comment 1-1 (USFWS/CDFG letter), project-level analyses will be conducted during the design phase for future CIP projects, at which time the appropriate level of subsequent CEQA documentation will be determined by OWD.

7-5 In response to this comment, performance measure Cul-2C (Section 4.3.3.2, Issue 2 – Archaeological Resources, of the PEIR) has been revised, as follows:

Cul-2C 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. ~~The OWD shall also immediately notify the San Diego Museum of Man at the time of discovery.~~ 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 for evaluation, at which time the construction supervisor shall direct work to continue in the location of the discovery.

i. Prepare a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant, and implement the data recovery plan. The significance of the discovered resources shall be determined in consultation with the ~~San Diego Museum of Man and the~~ Native American representative, as appropriate.

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~~. If no such measures are feasible, then the impact shall be considered significant and unavoidable~~.

~~iii. If the site contains human remains, as part of the data recovery plan, consult with appropriate parties such as the Medical Examiner, NAHC, MLD, and/or San Diego Museum of Man. Such consultation may include a pre-excavation agreement with the MLD.~~

iii. Perform appropriate technical analyses, prepare a report and file it with the ~~San Diego Museum of Man~~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 ~~San Diego Museum of Man and the~~ Native American representative, as applicable.

7-6 Please refer to response to comment 7-3 above regarding revisions to performance measure Cul-2A (Section 4.3.3.2, Issue 2 – Archaeological Resources, of the PEIR) to clarify that a qualified archaeologist will be performing subsequent investigations for all CIP pipeline projects, as part of future CEQA documentation for these projects, to determine the potential for encountering buried cultural resources and the requirements for cultural resources monitoring during pipeline trenching activities.

7-7 In response to this comment, the first sentence in performance measure Cul-2B (Section 4.3.3.2, Issue 2 – Archaeological Resources, of the PEIR) has been revised, as follows:

Cul-2B Prior to grading for the following CIP projects, the OWD shall retain a qualified archaeologist to monitor all ground-disturbing activities in coordination with a Native American monitor (as applicable): Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 870-2, Res 860-1, PS 978-2, PS 1296-2, PS LOPS, PS 870-2, PS Perdue WTP, P2434, and P2482.

7-8 Please refer to response to comment 7-5 above regarding revisions to performance measure Cul-2C(iii) (Section 4.3.3.2, Issue 2 – Archaeological Resources, of the PEIR) to remove the reference to the disposition of human remains, as this requirement is adequately addressed in Cul-SCP-1 (Section 4.3.3.3, Issue 3 – Human Remains, of the PEIR).

7-9 Please refer to response to comment 7-5 above regarding revisions to performance measure Cul-2C(iii) (Section 4.3.3.2, Issue 2 – Archaeological Resources, of the PEIR) to remove the reference to the disposition of human remains, as this requirement is adequately addressed in Cul-SCP-1 (Section 4.3.3.3, Issue 3 – Human Remains, of the PEIR).

7-10 Please refer to response to comment 7-5 above regarding revisions to performance measure Cul-2C(ii) (Section 4.3.3.2, Issue 2 – Archaeological Resources, of the PEIR) to remove the last sentence because it is speculative to assume within this PEIR, given the absence of detailed design information for the applicable CIP projects, that there are no feasible project modifications (e.g., redesign, placement of fill, relocation or abandonment) that could be implemented to preserve an archaeological site which may be discovered within a project"s disturbance limits.

7-11 The County of San Diego is not the lead agency under CEQA for the 2009 WRMP Update PEIR, and OWD is not obligated to use the County"s CEQA significance thresholds. As discussed in Chapter 4.0 (Scope and Format of the Environmental Impact Analysis) of the PEIR, the standards of significance used in the document are appropriately based on Appendix G of the CEQA Guidelines.

7-12 The consequence of all the problems cited above is that Section 4.3.3 of the DPEIR must be rewritten, with the input of qualified professionals and recirculated for public review before the District can certify it. Please include SDCAS in that review, as well as the reviews of the project-level environmental documents.

Sincerely,

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

cc: SDCAS President
File

7-12 As stated in response to comment 7-4 above, CEQA Guidelines establish that contributing authors of an EIR need not be experts. Therefore, the information and analysis contained in Section 4.3.3 (Impacts and Mitigation, Cultural Resources) of the PEIR adequately satisfies the CEQA standards for a programmatic evaluation of the potential environmental effects associated with implementation of the 2009 WRMP Update, in accordance with Section 15168 of the Guidelines.

The comment further requests recirculation of the Draft PEIR. However, OWD believes the responses to comments 7-1 through 7-11 above have adequately addressed the concerns raised in the comment letter from the SDCAS and any perceived inadequacies about Section 4.3.3 of the PEIR. According to Section 15088.5 of the CEQA Guidelines, "a lead agency is required to recirculate an EIR when significant new information is added to the EIR after public … review … New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect … „Significant new information" requiring recirculation includes, for example, a disclosure showing that:

(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project"s proponents decline to adopt it.
(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded."

None of the conditions listed above would apply to the 2009 WRMP Update PEIR; therefore, recirculation of the document is not warranted.

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EXECUTIVE SUMMARY

This chapter is an executive summary of the Program Environmental Impact Report (PEIR) for the implementation of the Otay Water District (OWD) 2009 Water Resources Master Plan Update (WRMP Update), prepared in compliance with the California Environmental Quality Act (CEQA). This chapter highlights the major areas of importance in the environmental analysis for the 2009 WRMP Update, as required by CEQA Guidelines Section 15123. It provides a brief description of the 2009 WRMP Update, project objectives, and alternatives to the 2009 WRMP Update. In addition, this chapter provides tables summarizing: 1) the direct and cumulative impacts that would occur from implementation of the 2009 WRMP 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

As required by CEQA, this PEIR: 1) assesses the potentially significant direct, indirect, and cumulative environmental effects of the 2009 WRMP Update; 2) identifies potential feasible means of avoiding or substantially lessening significant adverse impacts; and 3) evaluates a range of reasonable alternatives to the 2009 WRMP Update, including the required No Project Alternative. The OWD is the "Lead Agency" for the 2009 WRMP Update evaluated in this PEIR, and has the principal responsibility for certifying the PEIR and approving the 2009 WRMP Update.

Pursuant to CEQA Guidelines, this PEIR evaluates the effects of the entire 2009 WRMP Update at a program level. This PEIR will be used by the OWD to evaluate the environmental implications of adopting the 2009 WRMP Update. Once certified, this PEIR would also be used to tier subsequent environmental analyses for future OWD development projects.

Project Description

The 2009 WRMP Update revises the OWD's 2002 WRMP to meet projected water market demands within the OWD service area and adjacent areas of influence (collectively referred to as the "WRMP planning area"). To do this, the 2009 WRMP Update identifies the necessary potable and recycled water Capital Improvement Program (CIP) facilities (e.g., pump stations, storage reservoirs, transmission mains, groundwater wells), and associated probable cost estimates, and develops a phased approach to implement the CIP projects during the following time frames: 2009-2016 (Phase II) and 2017-Ultimate

(Phase III). The CIP projects identified in the 2009 WRMP Update will ensure an adequate, reliable, flexible, and cost effective potable and recycled water delivery system commensurate with growth within the WRMP planning area, consistent with the San Diego Association of Government (SANDAG) forecasts through 2030.

The CIP projects included in the 2009 WRMP Update and evaluated in this PEIR (refer to Section 3.4.4, Project Description, of this PEIR) 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.

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 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 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, the OWD makes every effort to use the shortest possible route between connection points to minimize ground-level impacts. In this practice, the OWD considers factors such as engineering principles and site-specific constraints. The CIP pipeline projects identified in the 2009 WRMP 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 projects involve a variety of project types, including pipelines, desalination facilities, groundwater well production systems, and a Membrane Bio Reactor (MBR) Reclamation Plant.

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.

Project Goals

The primary goals and objectives for the 2009 WRMP Update include the following actions:

- **Update Planning Criteria**: Update the OWD Land Use Database to incorporate recent and future population projections and planned development projects. Review system performance

criteria based upon planning criteria, and make recommendations for revised or new criteria, as required. Evaluate compliance of existing potable and recycled water distribution systems with established planning criteria.

- **Update Hydraulic Model:** Convert the 2002 hydraulic models into a new modeling program that incorporates OWD's Geographic Information Systems capabilities. Calibrate the hydraulic models to observed actual conditions utilizing data derived from the SCADA system.

- **Evaluate Existing Potable and Recycled Water Systems**: Make recommendations for improvements to correct deficiencies of existing systems, and to meet demands of the future planning area and identified area of influence based upon development patterns, types, location and timing.

- **Evaluate Future Potable and Recycled Water Systems**: Conduct additional hydraulic modeling for each pressure zone and system to analyze distribution system facilities under 6-year (2009-2015) and ultimate (2016-2030) demand conditions. Recommend future CIP projects to serve these conditions.

- **Update CIP:** Develop a phased implementation plan for recommended CIP projects, and estimated costs for identified projects. Incorporate water resource strategies, short-term implementation strategies, and infrastructure needs for the long-term strategies identified in OWD's IWRP.

Impact Summary

This PEIR examines the potential environmental effects from implementation of the 2009 WRMP 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 2009 WRMP Update are analyzed for the following issue areas:

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

Tables ES-1 and ES-2, presented at the end of this chapter, provide summaries of the environmental impacts that could result from implementation of the 2009 WRMP Update and feasible mitigation measures that could reduce or avoid environmental impacts. For each impact, Tables ES-1 and ES-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, Mineral Resources, Public Services, Recreation, and Utilities and Service Systems are considered to be "Effects Found Not to be Significant," according to Section 15128 of the CEQA Guidelines. These issues are discussed further in Chapter 5 (Other CEQA Considerations) of this PEIR.

Alternatives to the 2009 WRMP Update

The following alternatives are analyzed in detail in Chapter 6 (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 2009 WRMP Update alternatives include:

- **No Project Alternative.** Under the "no project" alternative, the OWD Board of Directors would not adopt the 2009 WRMP Update.

- **Reduced Footprint Alternative.** This alternative would reduce the development footprint of CIP projects located near 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 2009 WRMP 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 2009 WRMP 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 and biological and cultural resources. However, this alternative would only achieve four of the stated five objectives of the 2009 WRMP 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 in October 2008 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 November 13, 2008. One oral comment was received by the OWD at the scoping meeting by Wally Riggs, a member of the Crest Dehesa Community Planning Group. Mr. Riggs expressed a concern that if the Sycuan Indian Reservation were annexed into the OWD service area and groundwater wells constructed, there may be a potential effect on the existing groundwater wells on private lands near the Reservation. The OWD responded by stating that the District did not envision any such project for inclusion in the 2009 WRMP Update. Any such plans identified in the future would be required to undergo Local Agency Formation Commission (LAFCO) studies and NEPA/CEQA compliance similar to any other public or private water supply development project.

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.

Table ES-1. Project Level Environmental Impacts and Mitigation Measures

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.1 Air Quality/Global Climate Change				
Obstruction of implementation of the applicable air quality plan	Growth assumptions made within the 2009 WRMP Update to determine future service requirements have already been accounted for within the 2009 SDAPCD RAQS and 2007 SIP; therefore, the 2009 WRMP 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-1and 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 project once the project reaches the design stage to determine whether potential air pollutant emissions associated with construction activities are within the screening thresholds established by the SDAPCD. 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
Greenhouse gas emissions	Implementation of standard construction practices (Air-SCP-3 through Air-SCP-7) and energy efficiency measures (Ene-1 through Ene-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.	LS	No mitigation is required.	LS
4.2 Biological Resources				
Candidate, Sensitive, or Special Status Species	Implementation of the 2009 WRMP Update would result in direct impacts to sensitive plant and animal species.	PS	***Bio-1A*** ~~At least eight (8) weeks prior to vegetation clearing, grading, and/or construction activities~~ During the design phase for the following CIP projects, OWD shall retain a qualified biologist to conduct ~~pre-construction~~ biological surveys as part of the "tiered" CEQA documentation for these project, following the program described in Section 1.2 (Intended Use and Purpose of the PEIR) of this PEIR: Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, PS LOPS, Pipeline P2177, R2089, and P2454.	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Candidate, Sensitive, or Special Status Species Cont.			***Bio-1B*** If the ~~pre-construction~~ 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 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 ~~longer than three (3) weeks~~ and the contractor wishes to restart	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Candidate, Sensitive, or Special Status Species Cont.			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 ~~or until after August 31~~. 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 CDFG 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 ten (10) days after implementation.	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Candidate, Sensitive, or Special Status Species Cont.			iii. Ten (10) days prior to vegetation clearing, grading and/or construction activities that are scheduled to occur during the raptor nesting season (generally ~~February~~ 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~~, or until after July 31~~. Documentation of the raptor surveys and any follow-up monitoring, as necessary, shall be provided to OWD and USFWS within ten (10) days of completing the final survey or monitoring event. iv. For CIP projects 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 CIP projects 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) ~~and~~ 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), ~~and~~ 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 CDFG: 1) Debit credits from the San Miguel HMA upon approval of the OWD MSCP Subarea Plan (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	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Candidate, Sensitive, or Special Status Species Cont.			banking credits; and 3) Enhance, restore, create, and preserve in perpetuity off-site habitat areas at locations and mitigation ratios to be ~~determined~~ 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~~. 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 ~~monitoring and~~ maintenance requirements to ensure the success of the mitigation site(s). c. If federal permits or funding are required for the following CIP projects (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: Res 1090-2 (California gnatcatcher and Quino checkerspot butterfly), Res 1296-4 (California gnatcatcher), Res 980-4 (Quino checkerspot butterfly),	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Candidate, Sensitive, or Special Status Species Cont.			Res 860-1 (Quino checkerspot butterfly), Res 870-2 (Quino checkerspot butterfly), PS 1090-1 (California gnatcatcher and Quino checkerspot butterfly), PS 1296-2 (California gnatcatcher, Quino checkerspot butterfly and Otay tarplant), PS LOPS (Quino checkerspot butterfly), Pipeline P2177 (Quino checkerspot butterfly), R2089 (least Bell's vireo), and P2454 (Quino checkerspot butterfly and San Diego fairy shrimp). Conditions outlined in the Biological Opinion (BO) resulting from the Section 7 Consultations shall be implemented according to the responsible parties and the timing identified in the BO. In the absence of federal permits or funding, a Section 10(a)(1)(B) permit shall be obtained for the above-listed projects. ***Bio-1C*** Prior to vegetation clearing, grading, and/or construction activities for the following CIP projects, 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: Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, PS LOPS, Pipeline P2177, R2089, and P2454. ***Bio-1D*** Prior to vegetation clearing, grading, and/or construction activities for the following CIP projects, 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: Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, PS LOPS, Pipeline P2177, R2089, and P2454. 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.	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Candidate, Sensitive, or Special Status Species Cont.			***Bio-1E*** During vegetation clearing, grading, and/or construction for the following CIP projects, a qualified biologist shall monitor these activities: Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, PS LOPS, Pipeline P2177, R2089, and P2454. 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.	
4.3 Cultural Resources				
Historical Resources	Implementation of a historical building assessment prior to demolition of PS 657-1 and PS 850-1, and a subsequent documentation/treatment program as necessary, would reduce impacts to potential historical resources. ~~None of the buildings or structures that would be affected by the 2009 WRMP Update qualifies as historical resources as defined n 15064.5. Therefore, implementation of the 2009 WRMP Update would not result in a substantial adverse impact to 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*** During the design phase for all CIP pipeline projects within the 2009 WRMP Update, including R2089, P2267, P2454, and R2048, 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 pipeline trenching activities, then a cultural resources monitoring program shall be implemented in accordance with measures Cul-2B through Cul-2C.	LS

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Archaeological Resources Cont.			***Cul-2B*** Prior to grading for the following CIP projects, the OWD shall retain a qualified archaeologist to monitor all ground-disturbing activities in coordination with a Native American monitor (as Applicable): Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 870-2, Res 860-1, PS 978-2, PS 1296-2, PS LOPS, PS 870-2, PS Perdue WTP, P2434, and P2482. Prior to beginning any work that requires cultural resources monitoring: A pre-construction 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. i. A pre-construction 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-2C*** 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. ~~The OWD shall also immediately notify the San Diego Museum of Man at the time of discovery.~~ 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 for	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Archaeological Resources Cont.			evaluation, at which time the construction supervisor shall direct work to continue in the location of the discovery. i. Prepare a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant, and implement the data recovery plan. The significance of the discovered resources shall be determined in consultation with the ~~San Diego Museum of Man and the~~ Native American representative, as appropriate. 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. ~~If no such measures are feasible, then the impact shall be considered significant and unavoidable.~~ ~~If the site contains human remains, as part of the data recovery plan, consult with appropriate parties such as the Medical Examiner, NAHC, MLD, and/or San Diego Museum of Man. Such consultation may include a pre-excavation agreement with the MLD.~~ ii. Perform appropriate technical analyses, prepare a report and file it with the ~~San Diego Museum of Man~~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 ~~San Diego Museum of Man and the~~ Native American representative, as applicable.	

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
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 2009 WRMP 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) at CIP projects P2434, P2482, PS 927-1, PS LOPS, PS Perdue WTP, PS 870-2, PS 1296-2, PS 1090-1, and PS 978-2 would ensure that energy use would not be inefficient, wasteful, or unnecessary.	LS	No mitigation is required.	LS
4.5 Geology, Soils, and 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

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Paleontological Resources	Implementation of the 2009 WRMP Update could impact potential paleontological resources within the planning area.	PS	***Geo-5A*** During the design phase for all CIP pipeline projects within the 2009 WRMP 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 the following CIP projects, the OWD shall retain a qualified paleontologist to monitor all ground-disturbing activities: Res 640-3, Res 1090-2, Res 1296-4, Res 980-4, Res 870-2, Res 860-1, PS 1090-1, PS 1296-2, PS 927-1, PS LOPS, PS 870-2, PS Perdue WTP, P2434, P2482, P2370, R2089, P2454, R2048 and P2390. 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

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.6 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 2009 WRMP 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 Res 640-3, PS 978-2, PS Perdue WTP, P2434, Res 860-1, Res-870-2 and PS 870-2. CIP projects P2434 and P2484 would not result in a net deficit in aquifer volume or a lowering of the local groundwater table. In addition, there would be no impacts to groundwater supplies and recharge from implementation of the remaining CIP projects under the 2009 WRMP 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 2009 WRMP Update.	LS	No mitigation is required.	LS
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

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
4.7 Landform Alteration and Visual Aesthetics				
Scenic Vistas	Implementation of Aes-~~SCP~~PDF-1 would reduce the visual impacts of Res 980-4, Res 860-1, Res 870-2, LOPS, PS 978-2, PS 870-2, and PS Perdue WTP on scenic vistas within the OWD jurisdiction to a less than significant level.	PS	No mitigation is required.	LS
Visual Character and Quality	Implementation of OWD's standard requirements for landscaping and using natural color palettes for building materials (Aes-~~SCP~~PDF-1) would ensure that the CIP projects would not degrade the existing visual character of the project sites and their surroundings	LS	No mitigation is required.	LS
Lighting and Glare	Implementation of Aes-~~SCP~~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
4.8 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
4.9 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

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
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 OWD Standard Specifications for Explosives and Blasting (Noi-SCP-2) would reduce groundborne vibration from construction activities to a less than significant level.	LS	No mitigation is required.	LS
4.10 Public Safety				
Transport and use of hazardous materials	Implementation of a Hazardous Materials Business Plan (Haz-SCP-1 and Haz-PDF-1) 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 2009 WRMP 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 CIP projects (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
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

LS = Less than significant PS = Potentially significant

Table ES-2. Cumulative Impacts and Mitigation Measures

Issue	Geographic Scope of Cumulative Impact Analysis	Significance of Cumulative Impact after Mitigation	SDCRM Contribution
4.1 Air Quality			
Consistency with applicable air quality plan.	The geographic context for air quality impacts is the San Diego Air Basin in San Diego County.	LS	Not cumulatively considerable.
Consistency with air quality standards.	The geographic context for air quality impacts is the San Diego Air Basin in San Diego County.	LS	Not cumulatively considerable with implementation of Air-SCP-1, Air-SCP-2 and Air-1.
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.
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-1E.
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-2C.
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			
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.

Issue	Geographic Scope of Cumulative Impact Analysis	Significance of Cumulative Impact after Mitigation	SDCRM Contribution
4.6 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.
4.7 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-~~SCP~~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-~~SCP~~PDF-1.
4.8 Land Use			
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, and LU-SCP-1.
4.9 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.

Issue	Geographic Scope of Cumulative Impact Analysis	Significance of Cumulative Impact after Mitigation	SDCRM Contribution
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.
4.10 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.

LS = Less than significant PS = Potentially significant

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CHAPTER 1.0
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.

In 2002, the 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. The following three phases were identified in the 2002 WRMP Update: Phase I (2002-2006), Phase II (2007-2016), and Phase III (2017-2030).

The purpose of the 2009 WRMP Update is to revise the OWD's 2002 WRMP; identify the potable and recycled water CIP facilities (e.g., pump stations, storage reservoirs, transmission mains), and associated probable cost estimates, to meet projected water market demands within the OWD planning area and adjacent areas of influence (Figure 3-1); and develop a phased approach to implement the CIP projects during the following time frames: 2009-2016 (Phase II) and 2017-Ultimate (Phase III).

1.2 INTENDED USE AND PURPOSE OF THE PEIR

One of the purposes of a "Program" EIR is to provide a basis for tiering environmental documents that address subsequent activities, pursuant to 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 2009 WRMP Update. Adoption of the WRMP 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 WRMP 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 WRMP 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 2009 WRMP 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 2009 WRMP 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

The 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 §15367.

1.3.1 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 October 27, 2008. The 30-day public review period for the NOP ended November 25, 2008. A total of five comment letters were received during the NOP public scoping period.

A public scoping meeting was held at the OWD office, located at 2554 Sweetwater Springs Boulevard, Spring Valley, CA on November 13, 2008 at 7:00 p.m. The purpose of this meeting was to provide the public and governmental agencies with information on the 2009 WRMP 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 November 25, 2008, 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.

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 the OWD in identifying the range of actions, alternatives, issues, and potential effects associated with the 2009 WRMP Update. All issues raised during the NOP public scoping period were reviewed by the OWD to determine the appropriate consideration and level of analysis.

1.3.2 DRAFT PEIR PUBLIC REVIEW

The Draft PEIR ~~is~~ was subject to a 45-day public review and comment period, ~~beginning~~ which began on July 20, 2009 and ~~ending~~ ended on September 3, 3009. "Responsible agencies," "trustee agencies," and interested organizations and individuals ~~can provide~~ provided 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 2009 WRMP 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 2009 WRMP 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 2009 WRMP Update. As identified in the NOP comment letters (Appendix A to this PEIR), 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 (16 United States Code [U.S.C.] 1531 et seq.), and which may be impacted by implementation of the 2009 WRMP Update. In addition, the U.S. Army Corps of Engineers (ACOE) 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~~ were 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
Fax: (619) 670-8920
E-mail: lisa.coburn-boyd@otaywater.gov

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

- San Diego Main Public Library, 820 E Street, San Diego, CA 92101
- County Public Library, Rancho San Diego Branch, 11555 Via Rancho San Diego, El Cajon, CA 92019
- County Public Library, La Mesa Branch, 8074 Allison Avenue, La Mesa, CA 91941
- Chula Vista Public Library, Civic Center Branch, 365 F Street, Chula Vista, CA 91910
- Chula Vista Public Library, Eastlake Branch, 1120 Eastlake Parkway, Chula Vista, CA 91915
- San Ysidro Library, 101 W San Ysidro Boulevard, San Ysidro, CA 92173-2516

1.3.3 ORGANIZATION OF THE PEIR

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 2009 WRMP 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, Scope and Format of Environmental Impact Analysis.** Contains project analysis for the various environmental issues listed above under Section 1.2.3. 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, cumulative impacts and mitigation, CEQA checklist items deemed not significant or not applicable to the 2009 WRMP 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 6, 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 7, Acronyms and Abbreviations.** This chapter defines the acronyms and abbreviations used throughout the PEIR.

- **Chapters 8 and 9.** 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 (NOP) and responses

- **Appendix B.** Special Status Species Reported or Potentially Occurring within the Planning Area

1.3.4 OTHER RELATED ENVIRONMENTAL DOCUMENTS

This PEIR incorporates by reference the PEIR for the OWD 2002 WRMP (State Clearinghouse #2004011020), which was certified by the OWD Board of Directors on August 4, 2004. 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 2002 WRMP is available to the public for review at the OWD office listed in Section 3.5.2 above. Due to its age, the 1995 WRMP PEIR no longer reflects current land use information, and is therefore not incorporated by reference into this PEIR.

CHAPTER 2.0
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 the Otay Water District and generalized information regarding natural resources and land use.

REGIONAL SETTING

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

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 International Border with Mexico to the south. There are several major transportation routes though which access to the OWD is possible, including Highway 94 in the north, Interstate Highways 805 and 905 in the south and State Route 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 two distinct systems (Figure 3-2): 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 five primary operating systems for potable water, including the Regulatory, La Presa, and Hillsdale systems in the North District and the Central and Otay Mesa systems in the South District. The 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.

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. Elevations within this area range from 289 feet AMSL to 2,605 feet AMSL. This service area contains several scenic topographic features: San Miguel Mountain, Mother Miguel Mountain, and a portion of the Jamul Mountains. Dulzura Creek is also found 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: Diegan Coastal Sage Scrub, Chaparral, Riparian Forest, Non-native Grassland, Oak Woodlands, Wetlands, and Agriculture.

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: Agriculture, Diegan Coastal Sage Scrub, Non-native Grassland, Chaparral, Native Grassland, and Wetlands.

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 Diegan Coastal Sage Scrub, Chaparral, Riparian Forest, Agriculture, Oak Woodland, and Wetlands.

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: Diegan Coastal Sage Scrub, Chaparral, Non-native Grassland, Agriculture, 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: Diegan Coastal Sage Scrub, Chaparral, and Non-native Grassland.

CHAPTER 3.0
PROJECT DESCRIPTION

3.1 INTRODUCTION

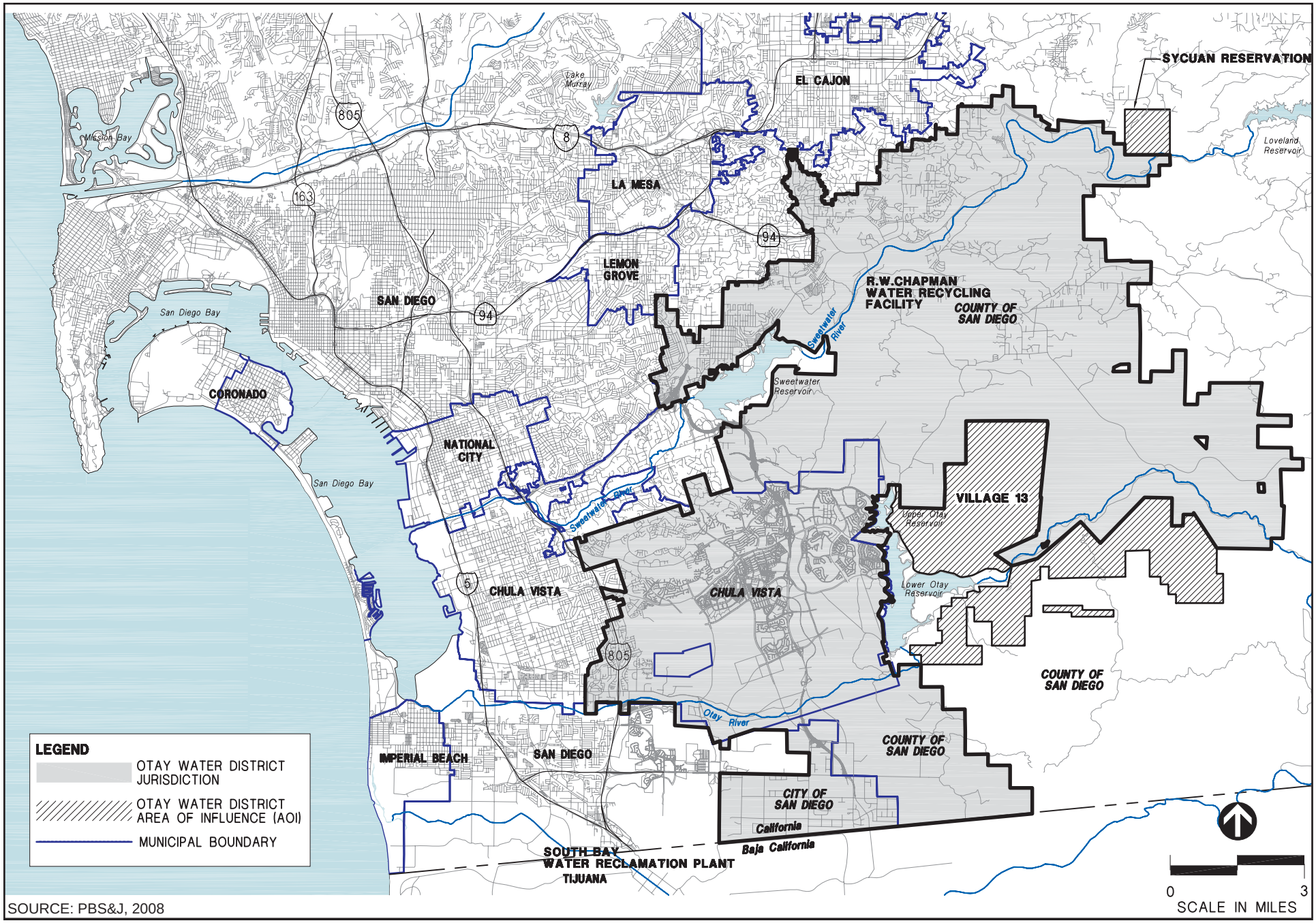
The purpose of this chapter is to describe the proposed project for the public, reviewing agencies and decision-makers. According to the California Environmental Quality Act (CEQA) Guidelines §15124, a complete project description must contain the following information: a) the precise location and boundaries 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 Environmental Impact Report (EIR), including discretionary actions (refer to Chapter 2.0, Introduction, of this PEIR).

This Program EIR (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 Otay Water District (OWD) 2009 Water Resources Master Plan (WRMP) Update. The OWD is the Lead Agency for the preparation of this PEIR, as defined in CEQA Guidelines §15367.

3.2 PROJECT LOCATION

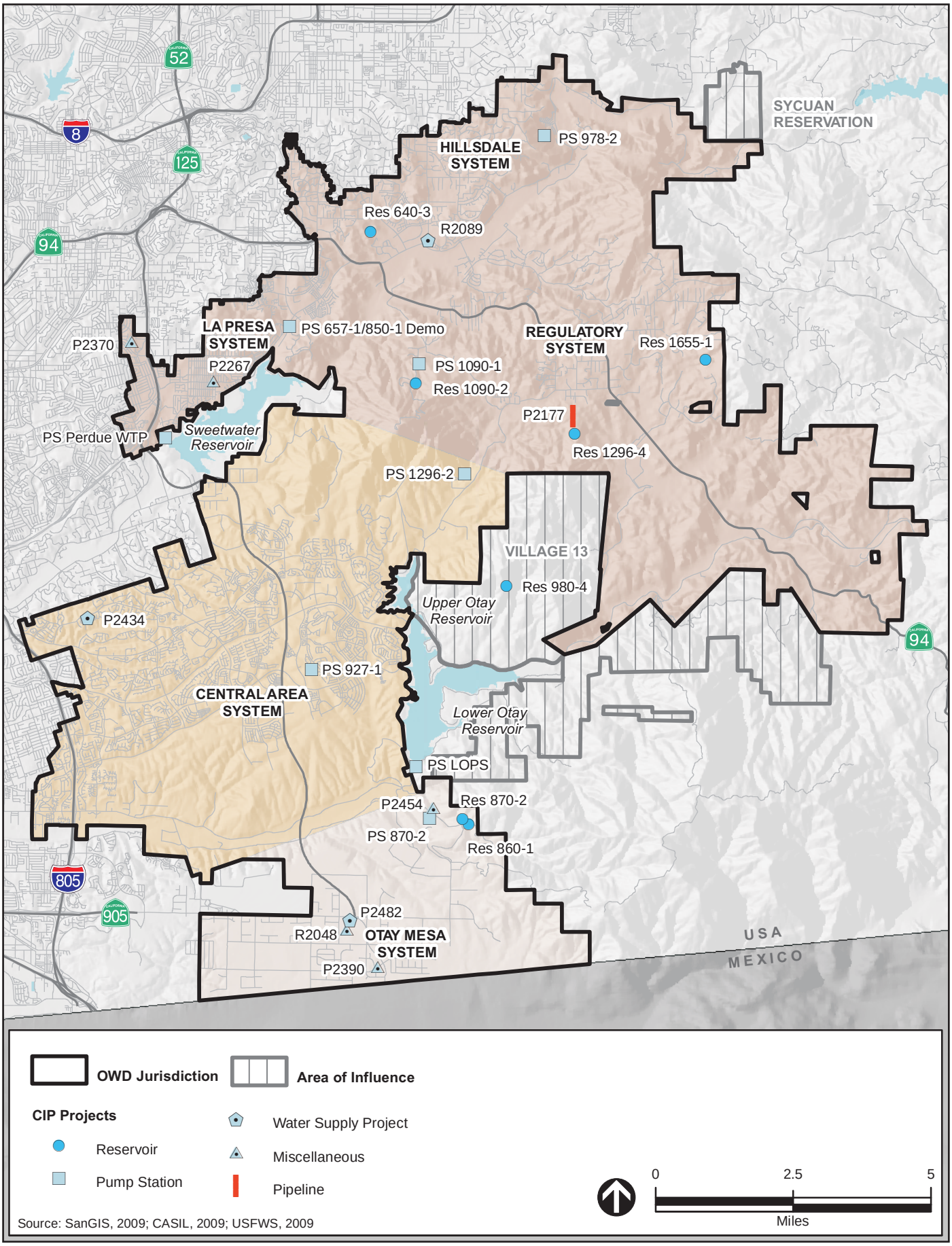
As shown in Figure 3-1, the OWD service area is regionally located within south central San Diego County, and is bounded by rural lands to the east, the Padre Dam Municipal Water District to the north, the Helix Water District to the northwest, the Sweetwater Authority and the City of San Diego to the west, and the International Border with Mexico to the south. There are several major transportation routes though which access to the OWD is possible, including Highway 94 in the north, Interstate Highways 805 and 905 in the south and State Route 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 186,000 people. The OWD water service area is divided into two distinct systems (Figure 3-2): 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 five primary operating systems for potable water, including the Regulatory, La Presa, and Hillsdale systems in



SOURCE: PBS&J, 2008

REGIONAL LOCATION MAP **FIGURE 3-1**



2009 WRMP PLANNING AREA AND CIP PROJECTS **FIGURE 3-2**

the North District and the Central and Otay Mesa systems in the South District. The OWD also maintains and operates a recycled water system in the South District (Central and Otay Mesa operating systems). In addition to water supply, the OWD also provides sewage collection, treatment, and disposal services to users within a small portion of the North District.

3.3 BACKGROUND

The 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.

The existing potable water supply to the OWD comes from the SDCWA through four separate connections to Pipeline No. 4 within the Second Aqueduct route of the SDCWA Flow Control Facility. The 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 the 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, the OWD developed a comprehensive 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. The following three phases were identified in the 2002 WRMP Update: Phase I (2002-2006), Phase II (2007-2016), and Phase III (2017-2030).

Since 2002, the OWD has continued to improve its potable water facilities to meet the water demands associated with growth. The 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.

The 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 because of potential drought shortages or emergency seismic conditions, in addition to the rising costs of imported water, the OWD has prepared an Integrated Water Resources Plan (IWRP) to develop a flexible, long-term strategy for its future supply portfolio. The 2007 IWRP identifies new supply options beyond the planned facility expansions and upgrades through 2010.

3.4 WATER RESOURCES MASTER PLAN

3.4.1 PURPOSE

The purpose of the 2009 WRMP Update is to revise the OWD's 2002 WRMP; identify the potable and recycled water CIP facilities (e.g., pump stations, storage reservoirs, transmission mains), and associated probable cost estimates, to meet projected water market demands within the OWD planning area and adjacent areas of influence (Figure 3-1); and develop a phased approach to implement the CIP projects during the following time frames: 2009-2016 (Phase II) and 2017-Ultimate (Phase III).

Please note that the Phase I projects identified in the 2002 WRMP are in design or under construction, and are therefore not addressed in the 2009 WRMP Update and this PEIR. Additionally, environmental documents for four CIP projects listed below have already been completed; information and mitigation measures from these documents have been incorporated by reference into this PEIR. These projects are i~~n~~dentified in the tables below. The CIP projects identified in the 2009 WRMP Update will ensure an adequate, reliable, flexible, and cost effective potable and recycled water delivery system commensurate with growth within the OWD planning area and adjacent areas of influence, consistent with the San Diego Association of Government (SANDAG) forecasts through 2030.

3.4.2 GOALS AND OBJECTIVES

The primary goals and objectives for the 2009 WRMP Update include the following actions:

- **Update Planning Criteria**: Update the OWD Land Use Database to incorporate recent and future population projections and planned development projects. Review system performance criteria based upon planning criteria, and make recommendations for revised or new criteria, as required. Evaluate compliance of existing potable and recycled water distribution systems with established planning criteria.

- **Update Hydraulic Model:** Convert the 2002 hydraulic models into a new modeling program that incorporates OWD's Geographic Information Systems capabilities. Calibrate the hydraulic models to observed actual conditions utilizing data derived from the SCADA system.

- **Evaluate Existing Potable and Recycled Water Systems**: Make recommendations for improvements to correct deficiencies of existing systems, and to meet demands of the future planning area and identified area of influence based upon development patterns, types, location and timing.

- **Evaluate Future Potable and Recycled Water Systems**: Conduct additional hydraulic modeling for each pressure zone and system to analyze distribution system facilities under 6-year (2009-2015) and ultimate (2016-2030) demand conditions. Recommend future CIP projects to serve these conditions.

- **Update CIP:** Develop a phased implementation plan for recommended CIP projects, and estimated costs for identified projects. Incorporate water resource strategies, short-term implementation strategies, and infrastructure needs for the long-term strategies identified in OWD's IWRP.

3.4.3 FACILITIES OVERVIEW

The CIP projects identified in the 2009 WRMP 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.

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 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 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, the OWD makes every effort to use the shortest possible route between connection points to minimize ground-level impacts. In this practice, the OWD considers factors such as engineering principles and site-specific constraints. The CIP pipeline projects identified in the 2009 WRMP 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 projects involve a variety of project types, including pipelines, desalination facilities, groundwater well production systems, and a Membrane Bio Reactor (MBR) Reclamation Plant. Due to the diverse nature of the projects within this category, construction and operational details for each project are discussed in Section 3.4.4.3, Water Supply Projects, below.

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.

3.4.4 DESCRIPTION OF PROJECTS

The 2009-2010 CIP was presented to the OWD Board of Directors for approval on May 21, 2009. The projects identified in the 2009 WRMP Update include many of the improvements that have been recommended in previous master plans.

3.4.4.1 Potable Water System

The potable water system improvements recommended in the 2009 WRMP Update would consist of several major pump stations, reservoirs and transmission mains to expand service throughout the OWD and resolve existing storage, pumping and water supply deficiencies (Tables 3-1 through 3-4). 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 2009 WRMP 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 the recommended CIP transmission mains would be installed within planned roadways. 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 2009 WRMP Update.

Storage Projects

The CIP potable water storage projects shown on Figure 3-2 and listed in Table 3-1 are required in order to meet the Phase II and Phase III storage needs of the OWD potable water system.

Table 3-1. Potable Water Storage CIP Projects[(1)]

Project No.	~~Exhibit Reference No.~~ Previous CEQA	Project Description	Capacity (MG)
Phase II (2009-2016)			
P2040	~~W009~~ No	Res 1655-1	0.5
P2037	~~W037~~ Yes	Res 980-3[(1)]	13.0
P2143	~~W143~~ Yes	Res 1296-3[(1)]	2.0
		Total Phase II	**15.5**
Phase III (2017-Ultimate)			
P2142	~~W142~~ No	Res 1296-4	10.0
P2176	~~W2176~~ No	Res 1090-2	1.0
P2228	~~W228~~ No	Res 870-2	10.0
P2233	~~W233~~ Yes	Res 640-3[(2)]	10.0
P2431	~~W431~~ No	Res 980-4	5.0
		Total Phase III	**25.0**
		Total All Phases	**40.5**

MG = million gallons

(1) All of these projects are evaluated at a programmatic level in this PEIR, with the exception of Res 980-3, Res 1296-3, and 640-3, which have been previously approved along with certified CEQA documents.

(2) A p~~P~~revious environmental document~~s~~ ~~have~~ has been completed for ~~these~~ this project~~s~~ and ~~are~~ is incorporated by reference.

Pump Station Projects

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

Pipeline Projects

The CIP projects listed in Table 3-3 are required in order to meet the Phase II and Phase III transmission pipeline needs of the OWD potable water system. ~~Many of these~~ 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. Many of these Since the CIP pipeline projects are assumed to be ~~constructed~~ installed concurrently with existing road improvements by local agencies or new road construction by private developers, they ~~projects and therefore~~ 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 3-2. Potable Water Pump Station CIP Projects[(1)]

Project No.	~~Exhibit Reference No.[(1)]~~ Previous CEQA	Project Description	Capacity (gpm)
Phase II (2009-2016)			
P2258	~~W258~~ No	PS Lower Otay Pump Station [(2)]	18,000
P2357	~~W357~~ No	PS 657-1/850-1 Demo	--
P2391	~~W391~~ No	PS Perdue WTP	3,500
		Total Phase II	**21,500**
Phase III (2017-Ultimate)			
P2083	~~W083~~ No	PS 870-2[(3)]	11,000
P2002	~~W002~~ No	PS 1296-2	10,000
P2174	~~W174~~ No	PS 1090-1[(4)]	280
P2256	~~W256~~ No	PS 978-2	1,500
P2392	~~W392~~ No	PS Lower Otay PS Expansion[(2)]	9,000
		Total Phase III	**31,780**
		Total All Phases	**53,280**

gpm = gallons per minute

(1) ~~Information from 2009 WRMP Update~~All of these projects are evaluated at a programmatic level in the PEIR.

(2) The initial phase of the Lower Otay Pump Station would involve a permanent station to replace the existing temporary station, with a capacity of 9,000 gpm. The ultimate phase would increase the capacity of the station to 18,000 gpm.

(3) New pump station to replace the existing 571-1 PS and 870-1 PS.

(4) New pump station to replace existing facility.

3.4.4.2 Recycled Water System

The recycled water system improvements recommended in the 2009 WRMP Update would consist of several major pump stations, reservoirs and transmission mains to expand service throughout the OWD and resolve existing storage and pumping deficiencies (Tables 3-4 and 3-5). 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 2009 WRMP 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 and Pumping Projects

The CIP projects listed in Table 3-4 are required in order to meet the Phase II and Phase III storage and pumping needs of the OWD recycled water system.

Table 3-3. Potable Water Pipeline CIP Projects[1]

Project No.	~~Map Reference No.~~ [1] Previous CEQA	Project Description	Length (feet)
Phase II (2009 - 2016)			
P2010	~~W010~~ No	Sweetwater Reservoir Pipeline	4,720
P2009	~~W009~~ Yes	PL 36-in Regulatory Site[2]	25,500
P2038	~~W038~~ Yes	PL 12-in Hidden Mesa Road[2]	8,600
P2058	~~W058~~ No	PL 24-in Proctor Valley Road	7,800
P2066	~~W066~~ No	PL 30-in Otay Mesa R/W	4,100
P2104	~~W104~~ No	PL 12-in La Media Road	4,900
P2107	~~W107~~ No	PL 12-in Rock Mountain Road	4,000
P2171	~~W171~~ No	PL 30-in Proctor Valley Road	2,100
P2181	~~W181~~ No	PL 30-in Proctor Valley Road	8,800
P2190	~~W190~~ No	PL 10-in Jamul Highlands Road	1,300
P2203	~~W203~~ No	PL 30-in Proctor Valley Road	4,000
P2318	~~W318~~ No	PL 20-in 657 Summit Cross-ties	--
P2325	~~W325~~ No	PL 12-in Coastal Hills Drive	2,300
P2356	~~W356~~ No	PL 12-in Jamul Drive	3,600
P2387	~~W387~~ No	PL 12-in Steel Canyon Road	1,800
P2399	~~W399~~ No	PL 30-in 980 Reservoirs	2,200
P2402	~~W402~~ No	PL 12-in La Media Road	5,400
P2414	~~W414~~ No	PL 16-in Dehesa Road	2,700
P2430	~~W430~~ No	PL 30-in Proctor Valley Road	12,360
P2135	~~W135~~ No	PL 20-in Otay Lakes Road	3,200
P2471	~~W471~~ No	PRS 850/657 at La Presa PS	--
		Total Phase II	**66,400**
Phase III (2017 - Ultimate)			
P2053	~~W053~~ No	PL 20-in Campo Road	5,800
P2056	~~W056~~ No	PL 16-in Jamul Drive	2,200
P2106	~~W106~~ No	PL 12-in La Media Road	4,400
P2116	~~W116~~ No	PL 12-in Hunte Parkway	3,000
P2122	~~W122~~ No	PL 20-in OTC	2,400
P2137	~~W137~~ No	PL 20-in Otay Lakes Road	1,600
P2138	~~W138~~ No	PL 20-in Village 13	2,900
P2139	~~W139~~ No	PL 20-in Village 13	1,200
P2146	No	PL 20-in Village 13	4,500
P2148	~~W148~~ No	PL - 16-Inch Jamacha Boulevard	4,300
P2156	~~W156~~ No	PL 12-in Olive Vista Drive	1,200
P2177[1][~~4~~2]	~~W177~~ No	PL 30-in to 1296-4 Res.	4,300
P2188	~~W188~~ No	PL 24-in Campo Road	3,400
P2198	~~W198~~ No	PL 24-in 832 PZ	8,500
P2204	~~W204~~ No	PL 24-in Pioneer Way	3,100
P2374	~~W374~~ No	PL 30-in 870-2 Res	400
P2401	~~W401~~ No	PL 12-in Otay Valley Road	17,700
P2404	~~W404~~ No	PL 12-in Rock Mountain Road	8,000
P2403	~~W403~~ No	PL 12-in Heritage Road	6,800
P2427	~~W142~~ No	PL 20-in Otay Lakes Road	4,000

Project No.	~~Map Reference No.~~ [1] Previous CEQA	Project Description	Length (feet)
P2435	~~W435~~ No	PL 30-in Proctor Valley Road	15,700
P2405	~~W405~~ No	PL/PRS Main Street	--
P2406	~~W406~~ No	PL/PRS EastLake Parkway	--
P2411	~~W411~~ No	PL/PRS 1296/944 Upgrade	--
P2412	~~W412~~ No	PL/PRS 944/832 Upgrade	--
P2413	~~W413~~ No	PL/PRS 1296/803 PRS	--
		Total Phase III	~~126,800~~109,300
		Total All Phases	~~187,200~~175,700

(1) With the exception of P2177 which would traverse the CDFG Rancho Jamul Ecological Reserve, none of these projects are depicted graphically in this PEIR because it is assumed that all CIP pipelines would be installed within existing paved roadways as part of a local agency public improvement or CIP project, or concurrently with the construction of planned roadways by private developers.~~Information from 2009 WRMP Update~~

(2) ~~Previous environmental documents have been completed for these projects and are incorporated by reference.~~

~~(3)~~ Location shown in Figure 3-2, and depicted graphically in this PEIR.

Table 3-4. Recycled Water Storage and Pumping CIP Projects[1]

Project No.	Previous CEQA	Project Description	Capacity
Phase II (2009-2016)			
R2091	No	PS 927-1 upgrade	7,500 gpm
R2034	No	Res 860-1	4.0 MG

gpm = gallons per minute
MG = million gallons
(1) All of these projects are evaluated at a programmatic level in this PEIR.

Table 3-5. Recycled Water Pipeline CIP Projects[(1)]

Project No.	Project Description	Length (feet)
Phase II (2009 - 2016)		
R2028	RecPL - 8-Inch, 680 Zone, Heritage Road - Santa Victoria/Otay Valley	8,100
R2042	RecPL - 8-Inch, 944 Zone, Rock Mountain Road - SR-125/EastLake	3,430
R2047	RecPL - 12-Inch, 680 Zone, La Media Road - Birch/Rock Mountain	4,880
R2048	RecPL - Otay Mesa Distribution Pipelines and Conversions	--
R2058	RecPL - 16-Inch, 860 Zone, Airway Road - Otay Mesa/Alta	10,700
R2077	RecPL - 24-Inch, 860 Zone, Alta Road - Alta Gate/Airway	7,900
R2082	RecPL - 24-Inch, 680 Zone, Olympic Parkway - Village 2/Heritage	3,100
R2083	RecPL - 20-Inch, 680 Zone, Heritage Road - Village 2/Olympic	1,280
R2084	RecPL - 20-Inch, 680 Zone, Village 2 - Heritage/La Media	5,000
R2085	RecPL - 20-Inch, 680 Zone, La Media - State/Olympic	2,740
R2087	RecPL - 24-inch, 944 Zone, Wueste Road - Olympic/Otay WTP	13,500
R2088	RecPL - 30-inch, 860 Zone, County Jail - Roll Reservoir/860-1 Reservoir	4,000
	Total Phase II	**64,630**
Phase III (2017 - Ultimate)		
R2037	RecPL - 8-Inch, 680 Zone, La Media Road - Rock Mountain/Otay Valley	4,050
R2038	RecPL - 8-Inch, 680 Zone, Rock Mountain Road - La Media/Otay Valley	7,300
R2043	RecPL - 8-Inch, 944 Zone, Rock Mountain Road - La Media/SR 125	2,600
R2073	RecPL - 24-Inch, 860 Zone, Alta Road - Airway/Border	3,170
R2078	RecPL - 8-Inch, 680 Zone, Otay Valley Road - SR 125/Heritage	13,920
R2079	RecPL - 6-Inch, 450 Zone, Otay Valley Road - Otay Valley/Entertainment	1,730
R2080	RecPL - 24-Inch, 680 Zone, Olympic Parkway - Medical Center/Heritage	2,840
R3015	RecPL - North District Distribution Pipelines and Conversions	--
	Total Phase III	**35,610**
	Total All Phases	**100,240**

(1) None of these projects are depicted graphically in this PEIR because it is assumed that all CIP pipelines would be installed within existing paved roadways as part of a local agency public improvement or CIP project, or concurrently with the construction of planned roadways by private developers. In addition, no previous environmental documents have been completed for these projects.

Pipeline Projects

The CIP recycled water storage and pump station projects shown on Figure 3-2 and listed in Table 3-5 are required in order to meet the Phase II and Phase III transmission pipeline needs of the OWD recycled water system. ~~Many of these~~ 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 the CIP pipeline projects are assumed to be ~~constructed~~ installed concurrently with existing road improvements by local agencies or with new road

construction by private developers, they ~~projects and therefore~~ would not require open cut and traffic control.

3.4.4.3 Water Supply Projects

The CIP projects listed in Table 3-6 below would be in support of future water supply assessment documents and potable water offset requirements within the WRMP planning area. These projects include groundwater wells, desalination facilities, and reclamation plants. Six of the nine water supply projects are not analyzed in this PEIR; these projects will undergo separate CEQA compliance, as described below.

Table 3-6. Water Supply Projects[(1)]

Project No.	Project Description
P2450	Otay River Groundwater Desalinization Facility
P2048	Otay Mesa Recycled Water System Link
P2481	Middle Sweetwater River Basin Groundwater Well
R2093	City of Chula Vista MBR Reclamation Plant
P2451	Rosarito Seawater Desalinization Facility
P2434	Rancho Del Rey Groundwater Well
R2089	North District Recycled Water Concept
P2482	Otay Mesa Lot 7 Groundwater Well
R2094	Potable Irrigation Meters to Recycled Water Conversions

(1) No previous environmental documents have been completed for these projects. Please note that P2434, P2482, and R2089 are evaluated at a programmatic level in this PEIR, while the remaining projects will undergo separate CEQA compliance.

P2450. The Otay River Groundwater Desalination Project would involve potential extraction of brackish groundwater from the San Diego Formation. The locations of desalination treatment and transport facilities have not been determined at this time. The OWD would be the CEQA Lead Agency, and environmental analysis for this project is anticipated to begin in 2015.

P2048. The goal of the Otay Mesa Recycled Water System Link project is to link the two existing OWD recycled water supply sources, the South Bay Water Reclamation Plant and the R.W. Chapman Water Recycling Facility, to existing and future customers within Otay Mesa. This project would involve several individual components, which are analyzed in this PEIR as Pipelines R2087, R2077 and R2058, and Res 860-1 (R2034).

P2481. The Middle Sweetwater River Basin Groundwater Well Project would produce a sustainable yield of local potable water supply (possibly up to 2,500 AF/yr). The location of this project has not been determined at this time. The OWD would be the CEQA Lead Agency, and environmental analysis for this project is anticipated to begin in 2009.

R2093. The City of Chula Vista MBR Reclamation Project would involve construction of a treatment plant and pipeline to produce and deliver recycled water from effluent flows received from the South Bay

Water Reclamation Plant. 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.

P2451. The Rosarito Seawater Desalination Project would involve construction of a potential treatment plant and conveyance facilities in Otay Mesa to bring desalinated water from the International Border, which would be supplied from planned seawater reverse osmosis plant in Rosarito, Mexico, to potential delivery points within the OWD service area. A joint NEPA/CEQA document for this project would begin at a future unknown date.

R2094. The Potable Irrigation Meters to Recycled Water Conversions Project would involve the retrofit of existing water meters at multi-family, commercial and industrial developments into separate meters for landscape irrigation (recycled water) and indoor uses (potable water) in order to meet specified Code Ordinances. No groundbreaking activities or construction work would occur; therefore, this project is not evaluated in this PEIR.

The remaining water supply projects are described below, and shown on Figure 3-2. The potential environmental impacts resulting from these projects are evaluated in this PEIR.

P2434. The Rancho Del Rey Well Development Project would involve construction of a water treatment system to accompany an existing well located in the City of Chula Vista, near the intersection of Rancho Del Rey Parkway and Terra Nova Drive. The treatment facility would be constructed within the existing well site boundary. In addition, off-site sewer and water lines would be necessary to serve the project.

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.

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

3.4.4.4 Miscellaneous CIP Projects

In addition to the CIP storage, pump station, pipeline, and water supply projects described above, the 2009 WRMP Update also includes miscellaneous CIP projects, as listed in Table 3-7 and shown on Figure 3-2. As described below, these projects include the 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.

The air and vacuum ventilation system project would involve the installation of a ventilation system and 36-inch diameter pipeline main within existing roadways in the La Presa System. The demolition project would involve the demolition of an existing reservoir and pump station within the La Presa System.

The vaults and meter project would be located at various points along Alta Road, near the City of San Diego Otay Water Treatment Plant. This project would involve similar design components as the CIP pipeline projects described above, including trench excavation within existing roadways, installation of

meters and vaults for potable and recycled water systems under roadways, and restoration of disturbed surface areas. Vaults and meters would be flush with the roadway, and accessed via manholes.

The Siempre Viva Bridge Pipeline Crossing Project would involve the installation of a potable water pipeline within the future Siempre Viva Bridge over SR-125.

The final miscellaneous CIP project would entail the installation of pipelines within existing roadways for the transport of recycled water; however, at this time, the exact locations of these individual pipelines are unknown.

Table 3-7. Miscellaneous CIP Projects[(1)]

Project No.	Project Description
Phase II	
P2267	36-Inch Main Pumpouts and Air/Vacuum Ventilation Installations
P2370	Dorchester Reservoir and Pump Station Demolition
P2454	Vaults and Meter, Alta Road and Use Area
Phase III	
P2390	Siempre Viva Bridge Pipeline Crossings
R2048	RecPL - Misc Distribution Pipelines

(1) With the exception of P2370 and P2454, the remaining three projects are not depicted graphically in this PEIR because they would be installed within existing paved roadways or concurrently with the construction of planned roadways/bridges. In addition, no previous environmental documents have been completed for these projects.

3.4.5 PHASING

Phasing 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 2009 WRMP Update (Table 3-8). The 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 3-8. Potential Permits and Approvals

Agency/Department	Permit/Approval	Action Associated With or Required For
Federal Agencies		
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).
	Fish and Wildlife Coordination Act	Provide comments to prevent loss of, and damage to, wildlife resources.
ACOE	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 ACOE 404 Permit)	Discharge into waters and wetlands (see ACOE Section 404 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 Game (CDFG)	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.

Agency/Department	Permit/Approval	Action Associated With or Required For
California Department of Fish and Game (CDFG)	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 Health Services (DHS)	Permit to Operate a Public Water System	Any person who plans to operate a public water system must obtain permit.
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	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.
San Diego Country, 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.

CHAPTER 4.0
SCOPE AND FORMAT OF ENVIRONMENTAL IMPACT ANALYSIS

Sections 4.1 through 4.10 of Chapter 4.0 of this PEIR contain a discussion of the potential significant environmental effects resulting from implementation of the OWD Water Resources Master Plan (WRMP), 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 WRMP could result in potential significant impacts for the following environmental topics:

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

Impacts to Agricultural Resources, Mineral Resources, Public Services, Recreation, and Utilities and Service Systems are considered to be "Effects Found Not to be Significant," according to Section 15128 of the CEQA Guidelines; the rationale for these conclusions is given in Chapter 5.0 of this PEIR.

Format of the Environmental Impact Analysis

The following subsections comprise each of the ten environmental topic sections in Chapter 4.0 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 NOP is published. The NOP for the OWD WRMP PEIR was published on October 27, 2008. 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 WRMP. 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," and "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 5.0 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 2009 to year 2015) and long-term (year 2016 to year 2030) projects associated with implementation of the WRMP. 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: 1) impacts resulting from implementation of the WRMP that are not likely to exceed the defined standards of significance; and 2) potentially significant impacts that are 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.*** This term is used to refer to impacts resulting from implementation of the WRMP 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."

- ***Significant and Unavoidable.*** This term is used to refer to significant impacts resulting from implementation of the WRMP 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 ~~near-term~~ 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~~ for the near-term projects~~, 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 ~~long-term~~ specific projects identified in the performance measure, prior to future approvals and construction of these projects consistent with the Findings of this PEIR.

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 4.0-1 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 WRMP.

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 4.0-1. Geographic Scope of Cumulative Impact Analyses

Environmental Topic	Geographic Scope of Cumulative Impact Analyses
Air Quality/Global Climate Change	Sensitive receptors adjacent to CIP construction sites for toxic air contaminants; the San Diego Air Basin for criteria air pollutants; the global atmosphere for greenhouse gas emissions.
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.
Hydrology/Water Quality	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). For groundwater quality, supplies and recharge, the cumulative impact study area includes the San Diego Formation, Sweetwater, and Otay Valley groundwater basins.
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 4.0 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 WRMP planning area) is considered as part of the baseline when evaluating the WRMP'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 WRMP) resulting from the full range of regional or area-wide conditions and cumulative projects that occur within the specific geographic areas described in Table 4.0-1. A Summary Box at the beginning of this subsection provides the reader a convenient capsule of the issue statement, a description of the cumulative impact, the significance of the baseline cumulative impact, and whether or not the WRMP's contribution to this

impact is cumulatively considerable (before and after implementation of mitigation/performance measures).

Past projects were considered as part of the baseline condition for the cumulative impact analysis. With regard to present and probable future projects, the following sources were included in the consideration of cumulative projects: 1) projections based on adopted general or regional plans (i.e., San Diego County General Plan, incorporated city general plans, Baja California, and the regional transportation plan, including proposed major transportation infrastructure improvements); 2) major planned development projects described in the 2002 WRMP that have not yet been completed; 3) cumulative projects currently in process or under construction within the unincorporated portions of the WRMP planning area; 4) proposed projects on Sycuan Reservation tribal lands within the County; and 5) proposed major utility improvements. To identify such projects, relevant planning documents were reviewed. The cumulative projects that were identified and considered in the cumulative impact analyses are summarized below and listed in Tables 4.0-2 through 4.0-8.

Regional Land Use Planning and Projected Growth

The San Diego Association of Governments (SANDAG) maintains the most current economic, demographic, land use, and transportation data projections for the County and incorporated cities. 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.

San Diego County General Plan

All counties in California are required by state law to create and adopt a general plan that covers each county's entire planning area and addresses a broad range of issues associated with development, including projected population and employment growth. The County of San Diego is currently updating their General Plan. Table 4.0-2 lists population projection data for the following unincorporated community planning areas located within the WRMP planning area and adjacent areas of influence that have been included in the cumulative analysis: Jamul/Dulzura, Otay, Spring Valley, Sweetwater, and Valle de Oro.

Table 4.0-2. Anticipated Increase in Population 2008-2030 under General Plan Update[(1)]

Community	Existing Conditions (2008)[(2)]	Population Accommodated by the General Plan Update	Forecasted Population (2030)	% Change (2008-2030)
Jamul/Dulzura	9,915	7,765	17,680	78.3%
Otay	4,690	10,090	14,780	215.1%
Spring Valley	62,377	4,613	66,990	7.4%
Sweetwater	13,187	2,303	15,490	17.5%
Valle de Oro	42,743	2,367	45,110	5.5%

(1) Source is DPLU 2008h, unless otherwise indicated.
(2) 2008 estimated population, based on SANDAG 2008d.

Incorporated City General Plans

As required by state law, each city in California must prepare a comprehensive, long-term general plan to guide its future development. This plan must cover the local jurisdiction's entire planning area and address a broad range of issues associated with development, including the identification of growth

projections for future population and employment within the city. These projections are consistent with the adopted general plans of the incorporated cities. Table 4.0-3 lists population and employment projection data for the following incorporated cities located within the WRMP planning area and adjacent areas of influence that have been included in the cumulative analysis: Chula Vista and San Diego.

Table 4.0-3. City Growth Projections

	Population Projection 2030	Employment Projection 2030
Chula Vista	316,445	109,780
San Diego	1,656,257	1,010,157

Source: SANDAG 2008c.

Data on the future rate of growth was obtained from SANDAG, the City of Chula Vista, and recent forecasts developed by OWD (used primarily for revenue projections). The assumed growth rates play a critical role in determining the timing and phasing of water improvement projects. The recent volatility and downturn of the housing market in Southern California has made this an important consideration of the 2009 WRMP Update.

In its 2007 Annual Growth Management Review, the City of Chula Vista Planning and Building Department reported a significant slowdown in residential growth over the prior three years and predicted a slow recovery through 2011. The forecast from November 2007 through December 2012 indicated an additional 8,146 residential units could be permitted for construction in Chula Vista (6,845 in the east and 1,301 units in the west) for an annual average of 1,369 in the east and 260 units in the west, or just over 1,629 housing units permitted per year on average, citywide. In 2008, the projected number of units permitted per year on average, citywide, was down by 333 units from the 2007 forecast.

Although Chula Vista represents about a third of the area served by OWD, the District revised its 2008 projections in 2009 to reflect a significant slowdown in meter sales, and projected less than 1,000 meters per year through 2011. This data will play a significant role in developing a phasing plan for OWD's CIP.

Utilizing the ultimate land use database developed for the 2009 WRMP Update, estimates of the ultimate number of dwelling units and population for the WRMP planning area were developed based on dwelling unit densities per acre and persons per dwelling unit for residential land uses. Values for dwelling unit per acre were based on actual development plans per Sub-Area Water Master Plans (SAMPs), Specific Planning Areas (SPAs), and the Otay Ranch General Development Plan (GDP). All areas outside SAMPs, SPAs, and the Otay Ranch GDP were assigned appropriate dwelling unit per acre values based on values consistent with community, City of Chula Vista, County of San Diego, and SANDAG planning guidelines. Persons per dwelling unit values were assigned to each residential category. The highest values of people per dwelling unit are for very low and low-density single-family residential areas and the lowest values are for multi-family residential development.

Table 4.0-4 shows the dwelling unit densities and persons per dwelling unit criteria for the residential land uses utilized for the 2009 WRMP Update. These are the same values assigned in the 1991, 1995, and 2002 WRMPs for dwelling unit projections. Ultimate water demand forecasts are based on land use. Population and development forecasts by OWD and Chula Vista were analyzed to develop a target 2016 water demand and corresponding CIP.

Table 4.0-4. Dwelling Unit and Population Projection Criteria for WRMP Planning Area

Land Use Code	Land Use Designation	Dwelling Units Per Acre	Persons Per Dwelling Unit
VL	Very-Low-Density Dwellings	0.0 to 1.0	4.0
L	Low-Density Dwellings	1.01 to 3.0	3.8
M	Medium Density Dwellings	3.01 to 8.0	3.5
HD	High-Density Dwellings	> 8.0	1.8

Baja California, Mexico

The WRMP planning area is bordered to the south by Baja California, Mexico. The Mexican cities of Tijuana and Tecate are located to the south of the San Diego County line. Due to their proximity to the U.S./Mexico international border, these cities and surrounding communities are referred to as border communities. The border communities of Baja California are known for having a fast-growing transient population. For example, it is estimated that Tijuana alone has a "floating population" of over 50,000, with a large number commuting to and from San Diego County for employment (ICF 2004).

The San Diego/Tijuana region is the largest bi-national metropolitan area in North America. In 2004, the region had over 4.1 million people, with the City of Tijuana accounting for approximately 1.3 million (ICF 2004). Tijuana is growing at an annual rate of approximately 4.9 percent and Baja California as a whole has been growing annually by approximately 5.0 percent during the last decade. Based on these growth rates, it is anticipated that the San Diego/Tijuana region's population will reach 8 million by 2030, including growth in San Diego County (ICF 2004).

2030 San Diego Regional Transportation Plan

Approved in 2007, SANDAG's 2030 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 2030. The 2030 San Diego RTP proposes approximately 85 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. Table 4.0-5 lists the RTP projects proposed within the WRMP planning area and adjacent areas of influence that have been included in the cumulative analysis. The 2030 San Diego RTP is available at www.sandag.cog.ca.us.

Cumulative Projects Identified in the 2002 WRMP

Since adoption of the 2002 WRMP, the planning area has experienced remarkable growth, particularly in the South District service area. 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 2009 WRMP Update, SAMPs and SPAs for the undeveloped and planned projects described in the 2002 WRMP 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 4.0-6.

Table 4.0-5. 2030 San Diego Regional Transportation Plan Projects

Project No.	Project Type
New or Improved Transit Route	
6	Increase in Existing Blue Line Trolley Service
7	Increase in Existing Orange Line Trolley Service
9	Escondido to Centre City & Airport via I-15/SR 94
13	H Street Trolley to Eastlake via Southwestern College
14	Centre City to Otay Mesa via SR 94/I-805
16	San Ysidro to Sorrento Mesa via I-805/I-15
High Occupancy Vehicle Connector	
19	I-15 Intersecting with SR 94, South to West and East to North Movement
Highway System Completion	
21	I-5/I-805 from Port of Entry – Mexico
22	SR 11 from SR 905 to Mexico
25	SR 125 from SR 905 to San Miguel Road
26	SR 125 from San Miguel Road to SR 54
28	SR 905 from I-805 to Mexico
Highway Widening, Arterials, and Freeway Interchanges	
33	SR 75/SR 282 from Glorietta Blvd to Alameda Blvd, Expansion to Six Conventional Highway Lanes plus Two Tunnels
35	SR 94 from SR 125 to Jamacha Road, Expansion to Six Freeway Lanes/Six Conventional Highway Lanes
36	SR 94 from Jamacha Road to Steele Canyon Road, Expansion to Four Conventional Highway Lanes
37	SR 125 from SR 905 to San Miguel Road, Expansion to Eight Lane Toll Road
38	SR 125 from San Miguel Road to SR 54, Expansion to Eight Freeway Lanes
Freeway Connector	
42	SR 94 Intersecting SR 125, West To North And South To East
Transit Facility Improvements	
50	Regional Light Rail Grade Separations
51	Early Action Project Funding
52	Improved/New Major Transit Stations and Centers
53	Direct Access Ramps to Managed/HOV Lanes
54	Vehicles for New Regional and Corridor Transit Services
Arterial Transit Priority Improvements	
55	HOV and Managed Lane Facilities
56	I-5 from SR 905 to SR 54, Addition of Two HOV Lanes
64	I-15 from SR 94 to SR 163, Addition of Two Freeway Lanes and Two HOV Lanes
72	SR 94/SR 125 from I-5 to I-8, Addition of Two HOV Lanes
74	I-805 from SR-905 to SR 54, Addition Of Four Managed Lanes
International Transportation Projects	
78	Re-open the Only Rail Link to the East Via the San Diego and Arizona Eastern Railway
82	SR 905 to Connect I-5 and I-805 to the Otay Mesa Port Of Entry
83	Future SR 125 Tollway that will Connect the Otay Mesa Port of Entry with the San Diego Regional and Interregional Highway Network
84	Future SR 11 Link to the Proposed East Otay Mesa Border Crossing
85	Potential Border Crossing in Jacumba and East Otay Mesa

Source: SANDAG 2007.

Table 4.0-6. Status of Undeveloped Cumulative Projects Identified in 2002 WRMP

Water System Planned Development Project	Dwelling Units (DU)				Commercial Development (ac)	Industrial Development (ac)	Community Purpose Facility (ac)	Park Land (ac)	School Property (ac)[1]	Resort Area (ac)	Open Space (ac)	Roadway (ac)	Gross Area (ac)
	SF (DU)	MF (DU)	Total (DU)	Area (ac)									
Hillsdale System													
Hillsdale Ranch											85.5		85.5
Total	**0**	**0**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**85.5**	**0.0**	**85.5**
Regulatory System													
Hidden Valley Estates											1,460.0		1,460.0
Simpson Farm	98		98	122.7	12.5						7.3	15.2	157.7
Honey Springs Ranch											2,022.0		2,022.0
Rancho Jamul Estates	151		151	621.2			3.6				163.4		788.2
Rancho Jamul Gande	23		23	80.7							44.7	4.6	130.0
Planning Area 17	296		296	816.7							2,366.5		3,183.2
Total	**568**	**0**	**568**	**1,641.3**	**12.5**	**0.0**	**3.6**	**0.0**	**0.0**	**0.0**	**6,063.9**	**19.8**	**7,741.1**
Central Area System													
Vista Mother Miguel	41		41	10.0									10.0
Bella Lago	143		143	90.6							89.0		179.6
Bonita Meadows	496		496	53.5			1.6				177.5	31.3	263.9
Villages 2-4	549	2,237	2,786	331.7	15.3	87.9	6.1	59.6	10.3		200.3	32.7	743.9
Village 8	565	1,017	1,582	193.7	4.0		6.3	20.5	35.0		22.4	14.2	496.1
Village 9	365	4,118	4,483	291.1	5.0		13.8	29.8	60.6		38.5	27.7	466.5
Village 10			0						440.0				440.0
Village 13	1,843	277	2,120	522.1			2.5	19.6	12.6	48.2	1,252.4	43.0	1,900.4
Village 14	1,563	150	1,713	773.8	2.9		7.5	10.0	10.0		1,699.1	23.7	2,527.0
Village 15											2,371.9		2,371.9
Planning Area 12 (EUC)		2,500	2,500	70.1	261.2		8.9	45.0	10.0		20.0	24.2	439.4
Planning Area 16	390		390	716.9			1.7	2.5			2,119.8	25.4	2,866.3
Planning Area 18b			0			69.7							69.7
Planning Area 19	20		20	20.0									20.0
Total	**5,975**	**10,299**	**16,274**	**3,073.5**	**288.4**	**157.6**	**48.4**	**187.0**	**578.5**	**48.2**	**7,990.9**	**222.2**	**12,794.7**
Otay Mesa System													
Planning Area 18a						215.8							215.8
Other Developments	582		582	710.0	784.4	6,712.4	1,299.2	5.0			1,343.5	264.7	11,119.2
Total	**582**	**0**	**582**	**710.0**	**784.4**	**6,928.2**	**1,299.2**	**5.0**	**0.0**	**0.0**	**1,343.5**	**264.7**	**11,335.0**
Total All Systems	**7,125**	**10,299**	**17,424**	**5,425**	**1,085**	**7,086**	**1,351**	**192**	**579**	**48**	**15,484**	**507**	**31,956**

[1] Village 9 includes 50.6 acres for the University Campus. Village 10 is planned for the remaining 440 acres for the University Campus site.

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 WRMP 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, EastLake 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 8.** Village 8 is comprised of 496 acres in the south portion of the Otay Valley Parcel, and is located west of the planned SR-125 corridor and north of Otay River Valley. This project would include 565 single-family dwelling units, 1,017 multi-family dwelling units, 6 acres of community purpose facilities, 4 acres of commercial, 21 acres of parks, 35 acres for a school, and 22 acres of open space.

- **Village 9.** Village 9 would consist of a Town Center and surrounding residential village of 467 acres in the south portion of the Otay Valley Parcel, and is located northeast of the planned interchange of SR-125 and Otay Valley Road. This project would include 51 acres for a UC campus, along with 365 single-family dwelling units, 4,118 multi-family dwelling units, 30 acres of parks, 14 acres of community purpose facilities, 10 acres for schools, 5 acres for commercial, and 39 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 WRMP planning area, and 4,933 acres are within the adjacent areas of influence.

The Proctor Valley Parcel involves two urban villages and two planning areas which would include 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 Proctor Valley Parcel within the WRMP planning area includes Village 14 and Planning Areas 16 and 19 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 the WRMP 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, Village 15 has been recorded as open space preserve. Planning Area 17 is located within the OWD Regulatory System, and is planned to include 296 single-family units on 800 acres. Over 85 percent of the parcel is designated as open space. The entire parcel lies within the WRMP 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 the County of San Diego on the east. The WRMP planning area encompasses the east portion of the OMPCA 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 OMPCA 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 is scheduled for adoption in 2010.

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 project would include over 190 acres of industrial development north of Otay Mesa Road and just east of the SR-125 Toll Road.

Otay Crossings Commerce Park. The U.S. Department of Homeland Security has requested 40 to 80 acres of this 311.5-acre site for future construction of a third border crossing facility. This project would also include designated right-of-way (51 acres) for future construction of a portion of the planned SR-11 to provide accessibility to the border crossing facility, 31 mixed-use industrial lots (140 acres), and dedicated natural open space (21 acres). The Otay Crossings Commerce Park is planned to be constructed in two phases over several years.

Expansion of the State and County Prison Facilities. Corrections Corporation of America leases facilities at the County Detention Center but is proposing to build and operate a new 2,880-bed correctional center on an undeveloped 40-acre site along Alta Road. Planned expansion of the Donovan State Correctional Facility would house an additional 3,000 inmates and 1,500 staff, and include a new medical facility. It is anticipated that these facilities may be completed within the next 2 to 5 years. SAMPS will be required for these projects as OWD has not previously planned for major expansion at the prison sites.

In addition to the East Otay Mesa SPA, the County's South District includes areas immediately north of the City 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.

Cumulative Projects in the Unincorporated Portions of the WRMP 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 4.0-7 lists the cumulative projects within the unincorporated portions of the WRMP 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.

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. 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 WRMP planning area.

Table 4.0-7. Cumulative Projects in the Unincorporated Portions of the WRMP Planning Area

Project Name	Required Approvals[1]	Community	Dwelling Units	Acres
Hoskings Ranch, Genesee Properties (TM 5312)	TM	Jamul/Dulzura	33	1417.40
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.

Cumulative Projects on Tribal Lands (Sycuan Reservation)

~~As shown on Figure 3-1~~OWD currently does not provide water service to tribal lands. However, the Sycuan ~~Reservation is proposed for annexation~~ Band of Kumeyaay Indians (the "Tribe") has commenced the process of annexing 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. OWD is preparing an EIR evaluating the environmental impacts associated with such facilities. 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 ~~Reservation~~ 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.

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 WRMP 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 4.0-8 lists the major energy projects that are under construction and/or permitted pending construction in the vicinity of the WRMP planning area and adjacent areas of influence. These projects were considered as part of the cumulative analysis.

Table 4.0-8. Regional Energy Projects

Name	Location	Description	Projected Completion Date
Otay Mesa Generating Project	Western San Diego County	510 MW natural gas-fired, combined cycle power plant	May 2009
MMC Chula Vista Expansion – MMC Energy Inc.	San Diego County	110 MW simple-cycle electrical power plant facility	December 2009

Source: CEC 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 4.0-9. This list includes the Sunrise Powerlink Transmission Project proposed by San Diego Gas and Electric Company (SDG&E). This project would involve construction of a 500 kV transmission line in conjunction with several 230 kV transmission lines, and is expected to extend 150 miles between Imperial Valley and San Diego County. The Sunrise Powerlink Transmission Project was approved by CPUC in December 2008 and by the BLM in January 2009. Construction is tentatively scheduled to begin in June, 2010.

Table 4.0-9. CPUC Projects

Name	Location	Description	Date Application Submitted to CPUC
Silvergate Transmission Substation Project	San Diego County	Replace existing 139/69 kV substation (Main Street) with new 230/69 kV substation (Silvergate)	September 2006
Sunrise Powerlink Project	San Diego and Imperial Counties	Construction of a new 90-mile, 500 kV line from Imperial Valley Substation to Central East Substation and construction of 60 miles of new transmission lines, from Central East Substation to Penasquitos Substation	August 2006

Source: CPUC 2008

SDG&E is a regulated public utility that provides energy service to 3.4 million consumers through 1.4 million electric meters and 830,000 natural gas meters in San Diego and southern Orange Counties. SDG&E's service area spans 4,100 square miles. In 2003, SDG&E submitted a Long-Term Resources Plan to the CPUC. The plan included strategies to create a balance of conservation, more renewable energy supplies, new local power generation, and increased transmission capacity to meet the future energy needs of customers in SDG&E's service area. This plan accounts for a 20-year planning period. The Long-Term Resources Plan and associated projects have been considered in the cumulative analysis. Information on SDG&E's 2003 Long-Term Resources Plan is available at www.sdge.com/ news/resource Plan.shtml.

CEQA Checklist Items Deemed Not Applicable

Certain environmental issues from Appendix G of the CEQA Guidelines were determined to be not applicable to the WRMP 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 4.0 of this PEIR.

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4.1 AIR QUALITY AND GLOBAL CLIMATE CHANGE

This section of the PEIR for the 2009 WRMP Update describes existing conditions within the planning area with respect to air quality and 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 2009 WRMP 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 2008a). 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 (O_3), a criteria pollutant as described in Section 4.1.1.2.

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 64°F (NOAA 2009). The normal precipitation in San Diego is 9.9 inches annually, occurring primarily from November through March.

4.1.1.2 Existing Air Quality Within the Planning Area

Existing, air quality laws and regulations divide air pollutants into two general categories: criteria air pollutants and toxic air pollutants. Regulations for greenhouse gases are currently being developed (see

Section 4.1.1.3). The Clean Air Act requires the U.S. Environmental Protection Agency (USEPA) 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 (USEPA 2008).

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 USEPA 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 USEPA has set ambient air quality standards. These pollutants are described below.

Ozone (O_3)

Ozone (O_3) is a gas composed of three oxygen atoms. It is not usually emitted directly into the air, but at ground-level is created by a chemical reaction between oxides of nitrogen (NOx) 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 NOx 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 it 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 (USEPA 2008).

Carbon monoxide (CO)

Carbon monoxide 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 (NO_2)

Nitrogen dioxide 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 O_3, 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 (PM_{10} and $PM_{2.5}$)

Particulate matter 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 (SO_2)

Sulfur dioxide 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.

Lead (Pb)

Air-borne sources of lead 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.

Toxic Air Contaminants

TACs are controlled under a different regulatory process than criteria pollutants. Because no safe level of emissions can be established for TACs region-wide, the regulation of TACs is based on the levels of cancer risk and other health risks posed to persons who may be exposed (County of San Diego 2007). The adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) noncarcinogenic, and long-term (chronic) noncarcinogenic.

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 cancer risk for an inhaled TAC is estimated by multiplying the exposure concentration (in micrograms per cubic meter [$\mu g/m^3$]), by its cancer ~~"~~unit risk factor" (URF), which is the estimated cancer risk for a continuous exposure to 1 $\mu g/m^3$ of the substance over a specified averaging time, usually assumed as 70 years in a lifetime URF value.

Cancer risks are calculated for all carcinogenic TACs, and the results are summed to calculate an overall cancer risk. The calculation procedure assumes that cancer risk is proportional to concentrations at any level of exposure. This is generally considered a conservative assumption at low doses and is consistent with the current California Office of Environmental Health Hazard Assessment (OEHHA) regulatory approach.

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 California Ambient Air Quality Standards (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

Air quality data for the El Cajon, Chula Vista, and Otay Mesa air quality monitoring stations demonstrate that these portions of the SDAB have had acceptable levels of the criteria air pollutants CO, NO_2, SO_2, and Pb for the years 2003 to 2007 (SDAPCD 2008b). Conversely, data from these stations show that there have been air quality violations for the pollutants O_3, PM_{10}, and $PM_{2.5}$ during the same time frame. This data is consistent for data from the overall SDAB, which is within attainment for CO, NO_2, SO_2, and Pb, but not in attainment for O_3, PM_{10}, or $PM_{2.5}$.

Table 4.1-2 highlights violations of the State 1-hour standard for ozone, demonstrating that such violations occurred within all three stations over the past five years, but that the violations were rare (two at most per year). Violations of the State and Federal 8-hour standards for ozone are detailed in Table 4.1-3. This table demonstrates that since the inception of the State 8-hour ozone standard, there have been multiple violations within the El Cajon monitoring station, but that in terms of the Federal 8-hour ozone standard there have been few violations over the past five years. Table 4.1-4 shows violations of State and Federal PM_{10} standards, and demonstrates that State and Federal violations have been more numerous at the Otay Mesa monitoring station then at the Chula Vista or El Cajon monitoring stations. Lastly, Table 4.1-5 demonstrates violations of State and Federal 24-Hour $PM_{2.5}$ standards.

Toxic Air Contaminants

The OWD does not currently generate substantial sources of air emissions that could pose or contribute to a health risk, and therefore could be classified as TACs. Although some TACs could potentially be generated by the OWD in small quantities, the OWD is not currently listed within the *2007 Air Toxics "Hot Spots" Program Report for San Diego County* (SDAPCD 2008c). Companies and organizations listed within the aforementioned report are those considered to pose possible health risks to the community of San Diego with regards to TACs.

Table 4.1-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]	Federal Standards [2]	
		Concentration	Primary [3]	Secondary [4]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	--	Same as Primary Standards
	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 Standards
	Annual Arithmetic Mean	20 µg/m	--	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard	35 µg/m	Same as Primary Standards
	Annual Arithmetic Mean	12 µg/m	15 µg/m	
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)	0.053 ppm (100 µg/m^3)	Same as Primary Standard
	1 Hour	0.18 ppm (470 mg/m^3)	--	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	--	0.030 ppm (80 µg/m^3)	--
	24 Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)	--
	3 Hour	--	--	0.5 ppm (1300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	--	--
Lead	30 Day Average	1.5 µg/m^3	--	--
	Calendar Quarter	--	1.5 µg/m^3	Same as Primary Standard
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten 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	24 Hour	0.01 ppm (26 µg/m^3)	No Federal Standards	

(1) California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, lead, hydrogen sulfide, and vinyl chloride standards are not to be equaled or exceeded.

(2) National standards, other than 1-hour O_3, 8-hour O_3, 24-hour PM_{10}, 24-hour $PM_{2.5}$, and those based on annual averages, are not to be exceeded more than once a year. The one-hour O_3 standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one. The 8-hour O_3 standard is attained when the 3-year average of the annual fourth-highest daily maximum 8-hour concentrations is below 0.08 ppm. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile 24-hour concentrations is below 150 µg/m^3. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of the 98th percentile 24-hour concentrations is below 65 µg/m^3.

(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 mm of mercury (1,013.2 millibar). All measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury; parts per million (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) Measured as a geometric mean.

(7) Measured as an arithmetic mean.

(8) This standard is intended to limit the frequency and severity of visibility impairment from regional haze and is equivalent to a 10-mile nominal visual range when relative humidity is less than 70 percent.

Source: CARB 2008.

Table 4.1-2. Violations of the State 1-Hour Ozone Standard

Station	State 1-Hour Standard: 0.09 ppm				
	Number of Days in Exceedance				
	2007	2006	2005	2004	2003
Chula Vista	1	0	0	1	0
El Cajon	2	2	0	1	1
Otay Mesa	0	0	2	1	1
Entire Basin	18	23	16	12	23

Source: Five Year Air Quality Summary (SDAPCD 2008b).

Table 4.1-3. Violations of the State and Federal 8-Hour Ozone Standards

Station	State 8-Hour Standard: 0.07 ppm(1)					Federal 8-Hour Standard: 0.075 ppm(2)				
	Number of Days in Exceedance					Number of Days in Exceedance				
	2007	2006	2005	2004	2003	2007	2006	2005	2004	2003
Chula Vista	2	0	*	*	*	1	0	0	1	0
El Cajon	3	9	*	*	*	0	1	0	0	0
Otay Mesa	1	0	*	*	*	0	0	0	0	0
Entire Basin	43	68	*	*	*	7	14	5	8	6

(1) The State 8-Hour Ozone Standard became effective in 2006.
(2) The federal 8-Hour Ozone Standard of 0.075 ppm became effective in 2008. The reported violations from 2003-2007 are based on the prior standard of 0.08 ppm.
Source: Five Year Air Quality Summary (SDAPCD 2008b).

Table 4.1-4. Violations of the State and Federal 24-Hour PM_{10} Standards

Station	State 24-Hour Standard: 50 $\mu g/m^3$					Federal 24-Hour Standard: 150 $\mu g/m^3$				
	Number of Days in Exceedance					Number of Days in Exceedance				
	2008	2007	2006	2005	2004	2008	2007	2006	2005	2004
Chula Vista	0	2	2	2	0	0	0	0	0	0
El Cajon	0	1	0	0	1	0	0	0	0	0
Otay Mesa	22	27	27	29	30	0	1	0	1	0
Entire Basin	22	27	27	29	30	0	1	0	1	0

$\mu g/m^3$ = micrograms per cubic meter
Source: CARB, www.arb.gov, 2008.

Table 4.1-5. Violations of the Federal $PM_{2.5}$ Standards

Station	Federal 24-Hour Standard: 35 μg/m³ for $PM_{2.5}$				
	Number of Days in Exceedance				
	2008	2007	2006	2005	2004
Chula Vista	0	3	0	0	0
El Cajon	0	2	1	1	7

μg/m³ = micrograms per cubic meter
Source: CARB, www.arb.gov, 2008.
*This information was unavailable for the Otay Mesa Station

4.1.1.3 Greenhouse Gases

Greenhouse gases (GHG) are gases that trap heat in the atmosphere, analogous to the way a greenhouse retains heat. Common GHG include water vapor, CO_2, methane (CH_4), nitrous oxides (N_2O), chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), ozone (O_3), and aerosols. Global atmospheric concentrations of CO_2, CH_4 and N_2O have increased markedly as a result of human activities since 1750 and now far exceed pre-industrial values determined from ice cores spanning many thousands of years.

Individual GHGs have varying potentials to contribute to global warming and atmospheric lifetimes. Table 4.1-6 identifies the global warming potentials (GWP) and atmospheric lifetimes of basic GHGs. The CO_2 equivalent (CO_2e) is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent measure. The reference gas for GWP is CO_2; therefore, CO_2 has a GWP of one. By comparison, the GWP of CH_4 is 21. This means that CH_4 has a greater global warming effect than CO_2 on a molecule per molecule basis. One million metric tons of CO_2 equivalent is the mass emissions of an individual GHG multiplied by its GWP.

Table 4.1-6. 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	21	12 (± 3)
Nitrous oxide	N_2O	310	120
Sulphur hexafluoride	SF_6	23,900	3,200

(1) The warming effects over a 100-year time frame relative to other greenhouse gases (USEPA 2006).
Source: USEPA 2006.

State law defines GHGs to include the following compounds: CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 (Health and Safety Code, section 38505(g).) Descriptions of these compounds and their sources are provided below.

Carbon Dioxide (CO_2)

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. In 2005, global atmospheric concentrations of CO_2 were 35 percent higher than they were before the Industrial Revolution (USEPA 2008).

Methane (CH_4)

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 2008).

Nitrous Oxide (N_2O)

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 affect on the level of N_2O emissions from these types of sources (USEPA 2008).

Fluorinated Gases

HFCs, PFCs, and SF_6 are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes, including aluminum production, semiconductor manufacturing, electric power transmission, magnesium production and processing, and the production of Chlorodifluoromethane (HCFC-22), commonly used in air conditioning applications. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances, such as CFCs, Hydrochlorofluorocarbons (HCFCs), and halons. These gases are typically emitted in smaller quantities, but have higher GWP than other GHGs (USEPA 2008).

Global, Regional, and Local 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 the Otay Water District, using data from recent years to obtain average annual emissions of GHG. This GHG inventory serves as the baseline for the proposed project.

Global

Worldwide anthropogenic emissions of GHG in 2006 were approximately 49,000 million metric tons of CO_2e, including ongoing emissions from industrial and agricultural sources and emissions from land use changes (i.e., deforestation, biomass decay) (IPCC 2007). CO_2 emissions from fossil fuel use accounts for 57 percent of the total emissions of 49,000 million metric tons CO_2e (includes land use changes) and all CO_2 emissions are 77 percent of the total. CH_4 emissions account for 14 percent and N_2O emissions for 8 percent of GHG (IPCC 2007).

United States

The USEPA publication, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006,* provides a comprehensive emissions inventory of the nation‘s primary anthropogenic sources and sinks of GHG. In 2006, total U.S. GHG emissions were 7,054 teragrams (Tg) or MMT CO_2e. Overall, total U.S. emissions have risen by 15 percent from 1990 to 2006, while the U.S. gross domestic product has increased by 59 percent over the same period. Emissions fell from 2005 to 2006, decreasing by 1 percent (76 MMT CO_2e). The publication indicated that the following factors were primary contributors to this decrease: 1) compared to 2005, 2006 had warmer conditions, which decreased consumption of heating fuels, as well as cooler summer conditions, which reduced demand for electricity, 2) restraint on fuel consumption caused by rising fuel prices, primarily in the transportation sector, and 3) increased use of natural gas and renewables in the electric power sector (USEPA 2008).

California

The State of California is a substantial contributor of GHG as it is the second largest contributor in the U.S. and the 16th largest in the world. According to the California Air Resources Board (CARB), California generated 484 MMT CO_2e in 2004. Table 4.1-7 provides CARB data on California GHG emissions by sector in 2004. GHG emissions in California are mainly associated with fossil fuel consumption in the transportation sector (38 percent) with the industrial sector as the second-largest source (20 percent). Electricity production, from both in-State and out-of-state sources, agriculture, forestry, commercial, and residential activities comprise the balance of California‘s GHG emissions.

Emissions of GHG were offset slightly in 2004 by the sequestration (intake) of carbon within forests, reducing the overall emissions by 4.7 MMT CO_2e, resulting in net emissions of about 480 MMT CO_2e.

Table 4.1-7. State of California GHG Emissions by Sectors in 2004

Sector	Total Emissions (MMT CO_2e)	Percent of Total Emissions
Agriculture	27.9	6
Commercial	12.8	3
Electricity Generation	119.8	25
Forestry (excluding sinks)	0.2	<1
Industrial	96.2	20
Residential	29.1	6
Transportation	182.4	38
Misc[(1)]	16.0	3
Total (Gross) Emissions	484.4	100
Forestry Sinks	-4.7	-1
Net Emissions	479.7	100

[(1)] Unspecified fuel combustion which could not be attributed to an individual sector.
Percents may not total 100 due to rounding.
Source: CARB 2007.

San Diego County

A regional GHG inventory was prepared by the University of San Diego School of Law Energy Policy Initiative Center in 2008. This San Diego County Greenhouse Gas Inventory (SDCGHGI) is a detailed inventory that takes into account the unique characteristics of the region in calculating emissions. A summary of the inventory results, by category and percent contribution for the year 2006, is provided in Table 4.1-8.

Table 4.1-8. County of San Diego GHG Emissions by Category (2006)

Sector	Total Emissions (MMT CO_2e)	Percent of Total Emissions
On-Road Transportation	15.6	45
Electricity	8.5	25
Natural Gas Consumption	3	9
Civil Aviation	1.7	5
Industrial Processes & Products	1.6	5
Other Fuels / Other	1.1	3
Off-Road Equipment & Vehicles	1.3	3
Waste	0.7	2
Agriculture/Forestry/Land Use	0.4	2
Rail	0.3	1
Water-Borne Navigation	0.1	0.4
Total	34.4	100

Note: Numbers may not total to 100 percent due to rounding
Source: Energy Policy Initiative Center, University of San Diego School of Law, 2008.

Table 4.1-8 shows that in 2006, a total of 34.4 MMT CO_2e was generated by the County of San Diego. This total includes both the incorporated and unincorporated areas. Not surprisingly, the largest contributor of GHG was from the on-road transportation category, which comprised 46 percent (16 MMT CO_2e) of the total amount. The second highest contributor was the electricity category, which contributed 9 MMT CO_2e, or 25 percent of the total. Together the on-road transportation and electricity category comprised 71 percent of the total GHG emissions for the County of San Diego. The remaining amount was contributed by natural gas consumption, civil aviation, industrial processes, off-road transportation, waste, agriculture, rail, water-borne navigation, and other fuels.

Otay Water District

In December of 2008 the 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 Jones & Stokes 2008). Sources of GHGs include indirect emissions from consumption of electricity and direct emissions produced on OWD property, including stationary combustion sources (boilers, heaters, and emergency generators), mobile sources (OWD-owned vehicles), water reclamation, and refrigeration. GHG emissions at the OWD are dominated by three pollutants, including CO_2 from the combustion of fossil fuels, methane (CH_4), most of which is associated with the water reclamation plant, and nitrous oxide (N_2O), which is emitted in small amounts from combustion and water reclamation processes. The GHG inventory found that the OWD emits an average of 14,833 metric tons of CO_2e in GHG per year when considering both direct and indirect emission sources (as shown in Table 4.1-9). 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 4.1-9. Average Annual OWD GHG Emissions (2006-2007)

Source	Annual Emissions (metric tons)			
	CO_2	CH_4	N_20	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: Otay Water District Carbon Footprint Assessment (ICF Jones &Stokes 2008)

4.1.2 REGULATORY FRAMEWORK

4.1.2.1 Federal

Clean Air Act

The 1990 Clean Air Act (CAA) Amendments require emission controls on factories, businesses, and automobiles to reduce criteria pollutant emissions. The CAA Amendments regulate automobiles by

lowering the limits on VOC and NO_x emissions, requiring the phasing in of alternative fuel cars, requiring on-board canisters to capture vapors during refueling, and extending emission-control warranties. Toxic air pollutants are reduced by requiring factories to install ―maximum achievable control technology" and establishing urban pollution control programs.

The CAA Amendments require that each state have an air pollution control plan called the State Implementation Plan (SIP). The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The USEPA reviews the SIPs to determine whether the plans would conform to the 1990 CAA Amendments and achieve the air quality goals. The USEPA may prepare a Federal Implementation Plan for a nonattainment area if the USEPA determines a SIP to be inadequate.

The USEPA has classified air basins (or portions thereof) as being in ―attainment," ―nonattainment," 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 inadequate air quality data were available as a basis for a nonattainment or attainment designation.

Although San Diego County had achieved attainment for the federal one-hour ozone standard in 2003, in 2005 the USEPA revoked the federal one-hour ozone standard. San Diego County was designated a nonattainment area for the eight-hour ozone NAAQS, effective June 15, 2004, based on ozone air quality measurements over the 2001-2003 three-year period. At that time, the region's nonattainment status was further categorized by USEPA as ―Basic," a category of eight-hour ozone nonattainment areas whose one-hour ozone design values met the former one-hour ozone NAAQS.

The USEPA currently does not regulate GHG emissions through the CAA. The Federal government administers a wide array of public-private partnerships to reduce U.S. greenhouse gas emissions and greenhouse gas emissions intensity. These programs focus on energy efficiency, renewable energy, methane and other non- CO_2 gases, agricultural practices and implementation of technologies to achieve greenhouse gas reductions. USEPA implements several voluntary programs that substantially contribute to the reduction of greenhouse gas emissions.

National Emissions Standards for Hazardous Air Pollutants Program

The National Emissions Standards for Hazardous Air Pollutants (NESHAPs) are emissions standards set by the USEPA for an air pollutant not covered by NAAQS that may cause an increase in fatalities or in serious, irreversible, or incapacitating illness. Under federal law, 188 substances were identified as TACs and proposed for regulation. The standards for a particular source category require the maximum degree of emission reduction that the USEPA determines to be achievable, which is known as the Maximum Achievable Control Technology (MACT). These standards are authorized by Section 112 of the Clean Air Act and the regulations are published in 40 CFR Parts 61 and 63.

MACT is implemented and enforced in the SDAPCD Regulation XIV, Title V Operating Permits, which administers the federal operating permits program established by the 1990 CAA Amendments.

4.1.2.2 State

California Clean Air Act

California has adopted ambient standards that are more stringent than the federal standards for the criteria air pollutants. Under the California Clean Air Act (CCAA), patterned after the federal CAA, areas have been designated as attainment, nonattainment or unclassified with respect to the state ambient air quality standards. The CCAA requires that districts design a plan to achieve an annual reduction in district-wide emissions of five percent or more for each nonattainment criteria pollutant or its precursor(s). These plans include the following: emission control standards that require local districts to stringently control emissions through varying degrees of stationary and mobile source control programs; application of additional control measures if a regional air quality management district or unified APCD contributes to downwind nonattainment areas; cost-effectiveness estimates for all proposed emission control measures; and development and implementation of transportation controls for cities and counties to enforce.

The CARB is the state regulatory agency with authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. The CARB is responsible for the development, adoption, and enforcement of the state‘s motor vehicle emissions program, as well as the adoption of the CAAQS. The CARB also reviews operations and programs of the local air districts, and requires each air district with jurisdiction over a nonattainment area to develop its own strategy for achieving the NAAQS and CAAQS. The local air district has the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations.

The SDAB is currently in nonattainment for the State one-hour O_3, eight-hour O_3, $PM_{2.5}$ and PM_{10} standards. The County is designated an attainment area for the State CO, NO, SO_2, Pb, and sulfates standards. Hydrogen sulfide and visibility-reducing particles are unclassified in San Diego County.

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 USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA, and will achieve air quality goals when implemented. The CARB adopts the California SIP. The APCD has developed the SDAB‘s 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‘s plans and control measures for attaining the O_3 NAAQS. The SIP is updated on a triennial basis. The CARB adopted its 2007 State Strategy for California‘s 2007 SIP on September 27, 2007. As part of the State Strategy, the APCD developed its *Eight-Hour Ozone Attainment Plan for San Diego County*, which provides plans for attaining and maintaining the 8-hour NAAQS for O_3. 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 USEPA and the CARB, 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 $PM_{2.5}$.

California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588)

The California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) is a State-wide program enacted in 1987. AB 2588 requires hundreds of facilities in San Diego County to quantify the emissions of TACs, and in some cases conduct a HRA, and notify the public, while developing risk reduction strategies. In San Diego County, 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 5 years. In addition, Rule 1200 establishes acceptable risk levels, and emission control requirements for new and modified facilities that may emit additional TACs.

Typically, land development projects generate diesel emissions from construction vehicles during the construction phase, as well as some diesel emissions from small trucks during the operational phase. Diesel exhaust is mainly composed of particulate matter and gases, which contain potential cancer-causing substances. Emissions from diesel engines currently include over 40 substances that are listed by USEPA as HAPs and by the CARB as TACs. On August 27, 1998, the CARB identified particulate matter in diesel exhaust as a toxic air contaminant, based on data linking diesel particulate emissions to increased risks of lung cancer and respiratory disease.

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] On April 1, 2009, the CCAT released the 2009 Draft Biennial Report to the Governor and Legislature, which expands on the policy oriented 2006 assessment and provides new information and scientific findings, including: 1) Development of new climate and sea-level projections using new information and tools that have become available in the last two years; and 2) Evaluation of climate change within the context of broader social changes, such as land-use changes and demographic shifts.[2]

Assembly Bill (AB) 32

In September 2006, the California State Legislature adopted 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, CARB has the primary responsibility for reducing GHG emissions and continues the CCAT to coordinate statewide efforts and promote strategies that can be undertaken by many other California agencies. AB 32 requires the CARB to adopt rules and regulations that would achieve greenhouse gas emissions equivalent to state-wide levels in 1990 by 2020.

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1 State of California, Environmental Protection Agency, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger and the California Legislature*, March 2006.

2 State of California, Environmental Protection Agency, Climate Action Team, *Draft 2009 Climate Action Team Biennial Report to Governor Schwarzenegger and the California Legislature,* March 2009.

In general, AB 32 directs the CARB 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 CARB 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, CARB has already made available a list of discrete early action GHG emission reduction measures. CARB 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. CARB identified 427 million metric tons of CO_2 equivalent (MMT CO_2e) as the total statewide aggregated greenhouse gas 1990 emissions level and 2020 emissions limit.

Senate Bill (SB) 97

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. On April 13, 2009, OPR submitted its proposed amendments to the state CEQA Guidelines for greenhouse gas emissions to the Secretary for Natural Resources. The Natural Resources Agency will conduct formal rulemaking in 2009, prior to certifying and adopting the amendments, as required by Senate Bill 97.

4.1.2.3 Local

San Diego County Regional Air Quality Strategy (RAQS)

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 CARB or the USEPA. 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 CARB, 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 O_3. The SDAPCD has also developed the air basin's input to the State Implementation Plan (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 CARB 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 CARB 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 emission 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 O_3.

The ARB's Scoping Plan includes a role for APCD in adopting standards, inventories, and enforcement procedures for reducing GHG, similar to the way in which criteria pollutants are currently regulated in the County. APCD's strategy for regulating GHGs would be developed once the ARB adopts final regulations and programs pursuant to AB 32.

4.1.3 PROJECT IMPACTS AND MITIGATION

4.1.3.1 Issue 1 – Consistency with Applicable Air Quality Plan

Air Quality and Climate Change Issue 1 Summary

Would implementation of the 2009 WRMP Update result in a conflict with or obstruct implementation of the applicable air quality plan?

Impact: Growth assumptions made within the 2009 WRMP Update to determine future service requirements have already been accounted for within the 2009 SDAPCD RAQS and 2007 SIP; therefore, the 2009 WRMP Update would not conflict with or obstruct implementation of the applicable air quality plan.	**Mitigation:** No mitigation is required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Less than significant.

Project Design Features/Standard Construction Practices

There are no Project Design Features (PDFs) or Standard Construction Practices (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 2009 WRMP 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 2009 WRMP Update is the 2009 RAQS (SDAPCD 2009). As discussed in Section 4.1.2.3, this plan was prepared by the SDAPCD for CARB 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 O_3, $PM_{2.5}$, 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 CARB 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 2009 WRMP Update to determine appropriate future service requirements were also derived from SANDAG growth assumptions and land use information. Therefore, the 2009 WRMP Update would be consistent with the applicable SDAPCD air quality management plan and the California SIP, as these documents utilized the same growth assumptions. Therefore, implementation of the 2009 WRMP Update would not conflict with or obstruct implementation of an applicable air quality plan.

Mitigation/Performance Measures

Implementation of the 2009 WRMP 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

Air Quality and Global Climate Change Issue 2 Summary

Would implementation of the 2009 WRMP Update violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Impact: Implementation of standard construction practices (Air-SCP-1and 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.

Mitigation: An air quality technical study shall be prepared for each CIP project once the project reaches the design stage to ensure that air pollutant emissions associated with construction activity are within the screening thresholds established by the SDAPCD (Air-1).

Significance Before Mitigation: Potentially significant.

Significance After Mitigation: Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP Update would include, but not be limited to, the following SCPs and PDFs 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:

- 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.
- 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.
- 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 (NOx and VOCs) associated with construction equipment. Measures shall be implemented during construction, including but not limited to the following action:

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

Standards of Significance

Based on Appendix G of the CEQA Guidelines, an impact is considered significant if implementation of the 2009 WRMP 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 District does specify Air Quality Impact Analysis (AQIA) trigger levels for new or modified stationary sources (APCD Rules 20.2 and 20.3) If these incremental levels are exceeded, an AQIA must be performed. Although these trigger 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, the screening level for VOCs used in this analysis are from the South Coast Air Quality Management District (SCAQMD), which generally has stricter emissions thresholds than SDAPCD. For $PM_{2.5}$, the USEPA ―Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published in 2005, which quantifies significant emissions as 10 tons per year, will be used as the screening level threshold. The trigger thresholds listed in Table 4.1-10 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 4.1-10. 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 (NOx)	25	250	40
Respirable Particulate Matter (PM_{10})	--	100	15
Fine Particulate Matter ($PM_{2.5}$)	--	55[(1)]	10[(1)]
Oxides of Sulfur (SOx)	25	250	40
Lead (Pb)	--	3.2	0.6
Volatile Organic Compounds (VOC)	--	75[(2)]	13.7[(2)]

(1) USEPA ―Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 2005.
(2) Based on VOC threshold from SCAQMD.
Source: SDAPCD Rule 1501, 20.2 (d)(2), Table 20.2-1.

Impact Analysis

Implementation of the 2009 WRMP 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 2009 WRMP 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 2009 WRMP 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 in Section 4.1.1.2 above, the SDAB is currently designated as a nonattainment area for the State standard for PM_{10}, $PM_{2.5}$, 1-Hour and 8-Hour O_3, and the Federal 8-Hour Standard for O_3. 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, CARB, and the USEPA with regards to tuning, maintenance, and operation of the vehicles. Therefore, while incorporation of these standard construction practices would reduce potential pollutant emissions, implementation of the 2009 WRMP 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 2009 WRMP 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 2009 WRMP 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 NO_X, CO, VOC, SOx, 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 2009 WRMP Update proposes construction of seven new pump stations: two (PS Lower Otay Pump Station, and PS Perdue WTP) within Phase II and five (PS 870-2, PS 1296-2, PS 1090-1, PS 978-2, and the Lower Otay Pump Station Expansion) within Phase III. CIP project PS 927-1 scheduled for Phase I is an upgrade of an existing pump station. 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, as addressed in Section 5.1 Effects Found Not to be Significant, operation of CIP projects proposed under the 2009 WRMP 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. 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 of vehicular trips associated with maintenance of the CIP projects, mobile sources of air pollutant emissions would be negligible. Therefore, implementation of the 2009 WRMP 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 project once the project reaches the design stage to determine whether potential air pollutant emissions associated with construction activities are within the screening thresholds established by the SDAPCD. 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.

4.1.3.3 Issue 3 – Consistency with Applicable Policies Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases

Air Quality and Global Climate Change Issue 3 Summary

Would implementation of the 2009 WRMP Update conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Impact: Implementation of standard construction practices (Air-SCP-3 through Air-SCP-7) and energy efficiency measures (Ene-1 through Ene-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.	**Mitigation:** No mitigation is required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP Update would include Air-SCP-1 and Air-SCP-2, which would reduce impacts associated with construction-generated dust and ozone precursors, and Ene-PDF-1 through Ene-PDF-4 (refer to Section 4.4, Energy), which would reduce the amount of energy required for

the CIP projects. In addition, the following SCP will be implemented to reduce potential impacts associated with GHG emissions during project construction.

Air-SCP-3 During project construction activities, the CIP Project Construction Manager will supervise the following BMPs to reduce emissions associated with diesel equipment:

- Properly operate and maintain all diesel-powered vehicles and equipment.
- Retrofit diesel-powered equipment with ~~"a~~fter-treatment" products (e.g., diesel oxidation catalysts, diesel particulate filters).
- Use electric or natural gas-powered construction equipment in lieu of gasoline or diesel-powered engines.
- Turn off all diesel-powered vehicles and gasoline-powered equipment when not in use for more than five minutes.
- Support and encourage ridesharing and transit incentives for the construction crew.
- Encourage the use of locally-available building materials, such as concrete, stucco, and interior finishes.
- Use light-colored or a high-albedo (reflectivity) concrete and asphalt paving materials with a Solar Reflectance Index (SRI) of 29 or higher.
- 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

Currently no State or regional regulatory agency has formally adopted or widely agreed upon thresholds of significance for GHG emissions. CEQA Guidelines §15064.7 states that ~~"e~~ach public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects." This provides justification for lead agencies to determine their own climate change thresholds. The Association of Environmental Professionals (AEP) recommends that ~~"i~~f a Lead Agency chooses to address GCC [Global Climate Change] in a [CEQA] document, it should be addressed in the context of a cumulative (versus project-specific) impact."

In 2006, California Governor Arnold Schwarzenegger signed the Global Warming Solutions Act (AB 32), establishing statutory limits on GHG emissions in California. AB 32 seeks to reduce statewide emissions to 1990 levels by the year 2020. While AB 32 does not specify reduction targets for specific sectors or jurisdictions, the EPIC SDCGHGI study (2008) calculated theoretical reduction targets for San Diego County. To meet the targets established by AB 32, the San Diego region would have to reduce its projected BAU 2020 emissions by 14 MMT or 33 percent.

Impact Analysis

The OPR issued a technical advisory in June 2008 entitled ~~"C~~EQA and Climate Change: Addressing Climate Change though CEQA Review," which provides a recommended approach for conducting climate change analysis for projects that generate GHG. The OPR recommends that CEQA review include a description of baseline conditions, an estimation of a project's GHG emissions during construction and operation, measures incorporated to reduce GHG emissions, and a determination of significance.

An inventory of the three most common GHG emissions (CO_2, CH_4, and N_2O) likely to be emitted by OWD projects is presented below. The emissions of the individual gases were estimated and then converted to their CO_2 equivalents (CO_2e) in metric tons using the individually determined GWP of each gas. The analysis methodology used for the inventory assumes a ―business as usual" scenario that does not take into account the effect that the emissions-reducing PDF/SCPs would have on the total emissions generated by the CIP projects.

Construction Emissions

Construction of CIP projects proposed under the 2009 WRMP Update would result in temporary emissions of GHG from the operation of construction equipment and from worker and building supply vendor vehicles. 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 2009 WRMP 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.

All equipment utilized for construction of the proposed CIP projects would be required to implement Air-SCP-2, which would require that all construction vehicles meet the requirements of the relevant air quality agencies with regards to tuning, maintenance, and operation of the vehicles. Measure Air-SCP-3 would ensure that fuel-efficient practices would be implemented during CIP project construction

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.

Electricity Usage. The 2009 WRMP Update proposes construction of seven new pump stations: two (PS Lower Otay Pump Station, and PS Perdue WTP) within Phase II and five (PS 870-2, PS 1296-2, PS 1090-1, PS 978-2, and the Lower Otay Pump Station Expansion) within Phase III. CIP project PS 927-1 scheduled for Phase I is an upgrade of an existing pump station. The electricity usage of the proposed CIP pump stations was estimated based on the average monthly electricity consumption of existing OWD Pump Stations provided in the Carbon Footprint Study prepared by ICF/Jones & Stokes in 2008. The electricity use of current pump stations was graphed and fitted with a trendline. The projected average monthly electricity consumption was then used to calculate the annual GHG emissions for the proposed pump stations. The information in Table 4.1-11 serves as a guide for the likely annual GHG emissions of the proposed CIP pump stations; it is possible that actual annual GHG emissions of each proposed pump station may vary from this estimate once in operation. As described previously, the proposed pump stations vary both in size (firm capacity) and in frequency of use. Some pump stations would be in operation more than others, due to the location of an individual pump station and the overall demand of the local customer base, which would influence the monthly electricity consumption and GHG emissions of each pump station. Using these assumptions, the estimated GHG emissions for electricity usage is 2,037 metric tons of CO_2e.

Stationary Sources. The only source of stationary GHG emissions would be from diesel-fueled standby emergency generators. These generators are only used for the eight CIP pump station projects. As stated earlier, standby generators are not used regularly, and are only tested once per month for a period of less than one hour. The average capacity of the emergency generators is 500 horsepower hour, which converts to 1.3 million Btu. Using these assumptions, the estimated GHG emissions from stationary sources is 0.76 metric tons CO_2e.

Mobile Sources. 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 2009 WRMP Update would not generate a significant volume of new vehicle trips. The maintenance for most of the CIP projects (other than pipeline projects, which would not require maintenance once installed) 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. Using these assumptions, it is estimated that the proposed projects would result in 66 daily trips, and would result in annual GHG emissions of 102 metric tons.

Table 4.1-11. Estimated Annual OWD GHG Emissions for Proposed CIP Pump Stations

Source	Annual Emissions (metric tons)			
	CO_2	CH_4	N_20	CO_2e
Indirect Sources				
Electricity Usage	3,593	0.15	0.04	3,608
Direct Sources				
Stationary (diesel generators)	0.76	0.000	0.000	0.76
Mobile	101.00	0.005	0.003	102
Total Indirect and Direct				**3,710.76**

As shown in Table 4.1-11, the total GHG emissions from the 2009 WRMP Update is estimated to be 3,711 metric tons CO_2e per year. Almost all of the GHG emissions would be from electricity usage (97 percent). GHG emissions from mobile sources represent about 3 percent and stationary sources represents less than one percent.

In comparison to the baseline GHG emissions of the OWD, as shown in Table 4.10-8 to be 14,883 metric tons of CO2e, the GHG emissions from the proposed project represents an approximate increase of 25 percent.

Consistency with Applicable GHG Reduction Measures

The California Climate Action Team (CCAT), established by Executive Order S-3-05 has recommended strategies to reduce GHG emissions at a statewide level to meet the goals of the executive order. However, the majority of these measures are not applicable at the individual project level. The 2008 CAPCOA report, ―CEQA and Climate Change," includes numerous GHG reducing measures that can be applied to individual projects. Further, the California Attorney General‘s Office has also published a list of recommendations of GHG reducing measures.

The 2009 WRMP Update includes a number of GHG-reducing features that would be incorporated during construction of individual CIP projects. Air-SCP-3 would be applied to all phases of construction of the CIP projects within the 2009 WRMP Update in an effort to reduce GHG emissions during construction, and the energy efficient measures Ene-PDF-1 through Ene-PDF-4 would be incorporated during project operation. Table 4.1-12 includes a comparison of the consistency of the 2009 WRMP Update's incorporated SCPs/PDFs with measures recommended by the CAPCOA and California Attorney General.

Table 4.1-12. GHG Emission Reduction Measures Incorporated by the 2009 WRMP Update

GHG Emissions Reduction Strategies	2009 WRMP Update PDF/SCP
CAPCOA MM C-1: ARB-Certified Diesel Construction Equipment	**Air-SCP-3.** During project construction activities, the CIP Project Construction Manager will supervise the following BMPs to reduce emissions associated with diesel equipment: • Properly operate and maintain all diesel-powered vehicles and equipment. • Retrofit diesel-powered equipment with "after-treatment" products (e.g., diesel oxidation catalysts, diesel particulate filters). • Use electric or natural gas-powered construction equipment in lieu of gasoline or diesel-powered engines. • Turn off all diesel-powered vehicles and gasoline-powered equipment when not in use for more than five minutes. • Support and encourage ridesharing and transit incentives for the construction crew. • Encourage the use of locally-available building materials, such as concrete, stucco, and interior finishes. • Use light-colored or a high-albedo (reflectivity) concrete and asphalt paving materials with a Solar Reflectance Index (SRI) of 29 or higher. • Establish a construction management plan with the local waste hauler that diverts a minimum of 50% of construction, demolition, and site clearing waste.
CAPCOA MM C-2: Alternative Fuel Construction Equipment	See discussion of Air-SCP-3 above.
CAPCOA MM C-3: Local Building Materials	See discussion of Air-SCP-3 above.
CAPCOA MM C-4: Recycle Demolished Construction Material	See discussion of Air-SCP-3 above.
CCAT Standard: Diesel Anti-idling: In July 2004, the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling. Post signs that restrict idling; education for truck drivers regarding diesel health impacts.	See discussion of Air-SCP-3 above.
California Attorney General Strategy: Solid Waste Reduction Strategy: Project construction shall require reuse and recycling of construction and demolition waste.	See discussion of Air-SCP-3 above.

GHG Emissions Reduction Strategies	2009 WRMP Update PDF/SCP
CAPCOA MM E-1: High Efficiency Pumps	**Ene-PDF-1.** CIP projects featuring electric pumps and motors, which include P2434, P2482, PS 927-1, PS LOPS, PS Perdue WTP, PS 870-2, PS 1296-2, PS 1090-1, and PS 978-2, would use high efficiency pumps and motors. **Ene-PDF-3**. OWD would conduct annual pump efficiency tests at each CIP project featuring a pump, which includes P2434, P2482, PS 927-1, PS LOPS, PS Perdue WTP, PS 870-2, PS 1296-2, PS 1090-1, and PS 978-2, and correct any decreases in efficiency through the repair or replacement of appropriate pump components. **Ene-PDF-4.** OWD would employ soft starts and stops to all CIP project pumps and motors to reduce total electricity consumption during operation of pumps and motors.
California Attorney General Strategy: Energy Efficiency: Install light emitting diodes (LEDs) for traffic, street and other outdoor lighting.	**Ene-PDF-2.** All outdoor lighting used at the CIP project sites would be energy-efficient light emitting diodes (LEDs). OWD would install motion sensor lighting controls to limit outdoor lighting usage.
California Attorney General Strategy: Energy Efficiency: Limit the hours of operation of outdoor lighting.	See discussion of Ene-PDF-2 above.
California Attorney General Strategy: Energy Efficiency: Use solar heating, automatic covers, and efficient pumps and motors for pools and spas.	See discussion of Ene-PDF-1 and Ene-PDF-3 above.

GHG emissions associated with CIP project construction and operation would contribute to the regional GHG inventory. Upon completion of each CIP project, GHG emissions associated with its construction would cease. The SCPs above would reduce emissions of GHG from construction equipment to the extent available by current technologies. Appendix B of the CAPCOA report lists estimated emission reductions associated with general GHG-reducing measures. Although the 2009 OWD WRMP Update includes all measures identified in the CAPCOA report that would be applicable to the CIP projects for reducing GHG during construction and operation, no quantifiable reduction is available for these measures.

As discussed above in the Standards of Significance, a project may be considered to help attainment of the state‘s goals (AB32) by being consistent with the plans, programs, and regulations adopted to implement AB 32. Further, a lead agency may rely on qualitative or other performance-based standards for estimating the significance of GHG emissions. Therefore, since the 2009 OWD WRMP Update includes measures that are consistent with strategies recommended by the CCAT, CAPCOA, and the California Attorney General, the impact associated with GHG emissions during project construction and operation would be less than significant.

Mitigation/Performance Measures

Implementation of Air-SCP-1 though Air-SCP-3 and 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 for assisting the State of California in the attainment of the goals of AB 32; therefore, no mitigation is required.

4.1.4 CUMULATIVE IMPACTS AND MITIGATION

Air Quality, Climate Change, and Global Warming Cumulative Issue Summary

Would implementation of the 2009 WRMP Update have a cumulatively considerable contribution to a cumulative air quality impact considering past, present, and probable future projects?

Cumulative Impact	Significant	WRMP Contribution
Consistency with applicable air quality plan.	Less than significant.	Not cumulatively considerable.
Consistency with air quality standards.	Potentially significant	Not cumulatively considerable with implementation of Air-SCP-1, Air-SCP-2 and Air-1.
Greenhouse gas emissions.	Yes.	Not cumulatively considerable with implementation of Air-SCP-1 through Air-SCP-3 and Ene-PDF-1 through Ene-PDF-4.

4.1.4.1 Consistency with Applicable Air Quality Plans

As indicated in Table 4.0-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to criteria air pollutants is the San Diego Air Basin. 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 2009 WRMP Update were based upon growth assumptions from SANDAG, as were the SDAPCD *San Diego 2009 RAQS* and the SIP. Therefore, the 2009 WRMP 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.

4.1.4.2 Consistency with Air Quality Standards

As indicated in Table 4.0-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to criteria air pollutants is the SDAB. As noted within Section 4.1.1.2 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 2009 WRMP 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.

4.1.4.3 Greenhouse Gas Emissions

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 Issue 3 above includes the analysis of both the 2009 WRMP Update and cumulative impacts.

4.1.5 CEQA CHECKLIST ITEMS DEEMED NOT SIGNIFICANT OR NOT APPLICABLE TO THE 2009 WRMP UPDATE

Would implementation of the 2009 WRMP Update expose sensitive receptors to substantial pollutant concentrations?

The 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 2009 WRMP Update would be CO. Intersections for which there are severe traffic congestion issues can have potential risks associated with CO "hotspots," defined as areas where high concentrations of CO 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 2009 WRMP Update (refer to Chapter 5.0, Other CEQA Considerations). Therefore, the 2009 WRMP Update would not have a potential to form CO "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 2009 WRMP Update create objectionable odors affecting a substantial number of people?

The 2009 WRMP 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 2009 WRMP Update describes existing conditions within the planning area with respect to biological resources, wildlife movement corridors, and conflicts with local policies protecting biological resources; the potential physical environmental effects (direct, indirect, and/or cumulative) related to these issues resulting from development of CIP projects under the 2009 WRMP Update; and the project design features, standard construction practices, and mitigation/performance measures to reduce or avoid the identified impacts. Refer to Section 4.8.3.1 (Land Use and Planning, Issue 1) of this PEIR for the evaluation of potential conflicts with habitat conservation plans 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

- California Department of Fish and Game (CDFG 2006);
- California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants* (CNPS 2007);
- California Natural Diversity Database (CNDDB 2006);
- San Diego Association of Governments (SANDAG) Regional Species (SANDAG 2006); and
- U.S. Fish and Wildlife Service (USFWS 2006).

Literature Review

- County of San Diego MSCP (County of San Diego, 1997);
- City of San Diego MSCP (City of San Diego 1997); and
- City of Chula Vista MSCP (City of Chula Vista 2003).

Biological information obtained from these sources applies to the entire planning area, as opposed to individual CIP project sites. As such, the biological resources listed in the following sections have the potential to occur within the planning area based on species sitings or habitat type, but may not occur within individual CIP project sites. Furthermore, all special-status species identified by the County of San Diego, City of San Diego, and City of Chula Vista MSCPs are included in this section, although portions of the MCSP planning areas extend beyond the WRMP planning area. Therefore, some of the MCSP species may not actually occur within the planning area.

4.2.1.2 Biological Resources

Vegetation Communities

The following vegetation communities occur within the planning area, as described below. Descriptions of each vegetation community were derived from the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland, 1986).

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 creeping snowberry (*Symphoricarpos mollis)*, San Diego sedge (*Carex spissa*), California buckthorn (*Rhamnus californica*), California wild rose (*Rosa californica*), nodding needlegrass (*Nassella 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 sycamores (*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 caerulea*), Pacific poison oak (*Toxicodendron diversilobum*), Pacific mistletoe (*Phoradendron villosum*), 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 (*Platanus racemosa*). Understories are usually introduced grasses. Plant species associated with this community include toyon (*Heteromeles arbutifolia*), blue elderberry (*Sambucus caerulea*), annual bluegrass (*Poa annua*), scrub oak (*Quercus berberidifolia*) and coast live oak (*Quercus agrifolia*).

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*), hollyleaf buckthorn (*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 sagebrush (*Artemisia california*), California buckwheat (*Eriogonum fasciculatum*) and sage species (*Salvia mellifera* and *Salvia apiana*). Canopy height tends to be low to moderate (3-5 feet tall), and relatively open, resembling sage scrub. This community provides habitat for several sensitive species, including the California gnatcatcher (*Polioptila californica*).

Diegan coastal sage scrub is commonly characterized by drought-adapted subshrubs, dominated by California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), and coyote bush (*Baccharis pilularis*).

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 California sagebrush (*Artemisia californica*), lemonade sumac (*Rhus integrifolia*), coastal agave (*Agave*

shawii), cliff spurge (*Euphorbia misera*), San Diego barrelcactus (*Ferocactus viridescens*), California desert-thorn (*Lycium californicum*), strawberry cactus (*Mammillaria dioica*), coastal pricklypear (*Opuntia littoralis*), chaparral pricklypear (*Opuntia oricola*), coastal cholla (*Opuntia prolifera*), and jojoba (*Simmondsia chinensis*).

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 Zaca manzanita (*Arctostaphylos glandulosa* ssp. *Zacaensis*), woolyleaf ceanothus (*Ceanothus tomentosus*), smooth mountain mahogany (*Cercocarpus minutiflorus*), chamise (*Adenostoma fasciculatum*), 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*), Eastern mojave buckwheat (*Eriogonum fasciculatum*), toyon (*Heteromeles arbutifolia*), Mcminn 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 needlegrass (*Nassella cernua*). 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*), red 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 (*Bromus madritensis* ssp. *Rubens*), soft brome (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), 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 Habitat

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*), Pacific willow (*Salix lucida* ssp. *Lasiandra*), narrowleaf willow (*Salix exigua*), Hooker's evening primrose (*Oenothera elata*), and hummingbird trumpet (*Epilobium canum*).

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

Southern cottonwood-willow riparian forest contains tall, broad-leafed species, which are predominantly Fremont cottonwood (*Populus fremontii*), black cottonwood (*Populus balsamifera* ssp. *Trichocarpa*) and several willow species. This vegetation community is usually found along streams and rivers. Species associated with this community include black willow (*Salix goodingii*), narrow-leaved willow (*Salix exigua*), shining willow (*Salix lucida* ssp. *Lasiandra*), arroyo willow (*Salix lasiolepis*), mule fat (*Baccharis salicifolia*), sycamore (*Platanus racemosa*), hoary nettle (*Urtica dioca*) and blue elderberry (*Sambucus mexicana*).

Southern willow scrub consists of dense, broadleaved, winter-deciduous stands of trees dominated by arroyo willow (*Salix lasiolepis*). 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 (*Scirpus californicus*), common threesquare (*Scirpus 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 cuspidate*), shortseed waterwort (*Elatine brachysperma*), and Orcutt's quillwort (*Isoetes orcuttii*).

Agriculture

Agricultural fields, orchards and pastures (primarily avocado and citrus) can be found in portions of the planning area.

Developed Areas

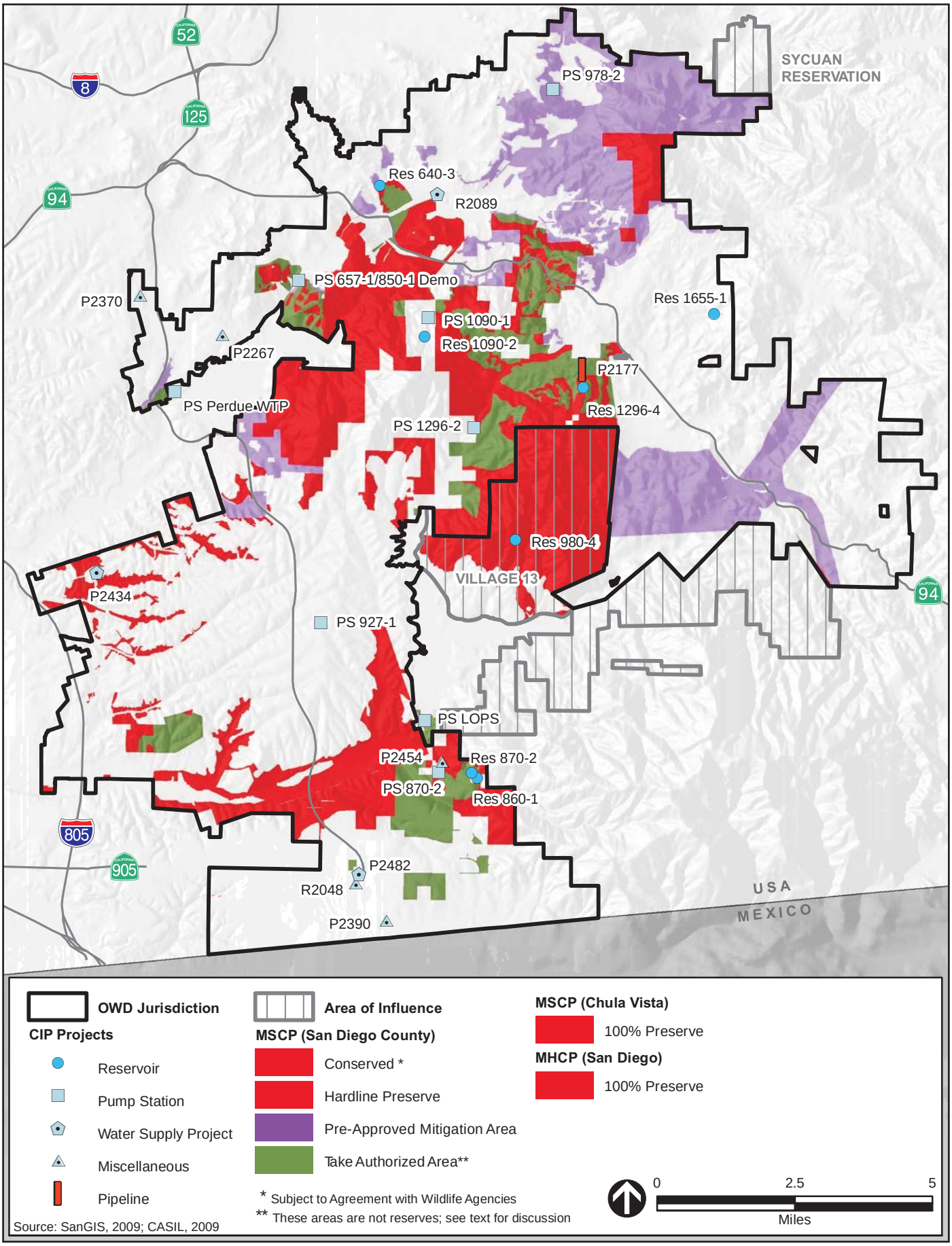
The planning area includes several developed, urbanized areas primarily in the southern and western portions, containing structures, roads and infrastructure facilities.

MSCP Open Space Reserves

The planning area falls within portions of the County of San Diego, City of San Diego, and City of Chula Vista MSCPs (Figure 4.2-1). 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.



MSCP Open Space Reserves Within the WRMP Planning Area

Figure 4.2-1

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 4.2-2) include: 1) along Sweetwater River between San Miguel Mountain and McGinty Mountain; 2) the area between Otay Mountain and Jamul Mountains to Sequan Peak; and 3) the area between San Miguel Mountain and Rancho del Rey.

Jurisdictional Areas

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 U.S. Army Corps of Engineers (Corps) and CDFG jurisdictional wetlands occur within the planning area boundaries (Figure 4.2-3), according to the USFWS National Wetland Inventory database (USFWS 2008).

4.2.1.3 Special-Status Biological Resources

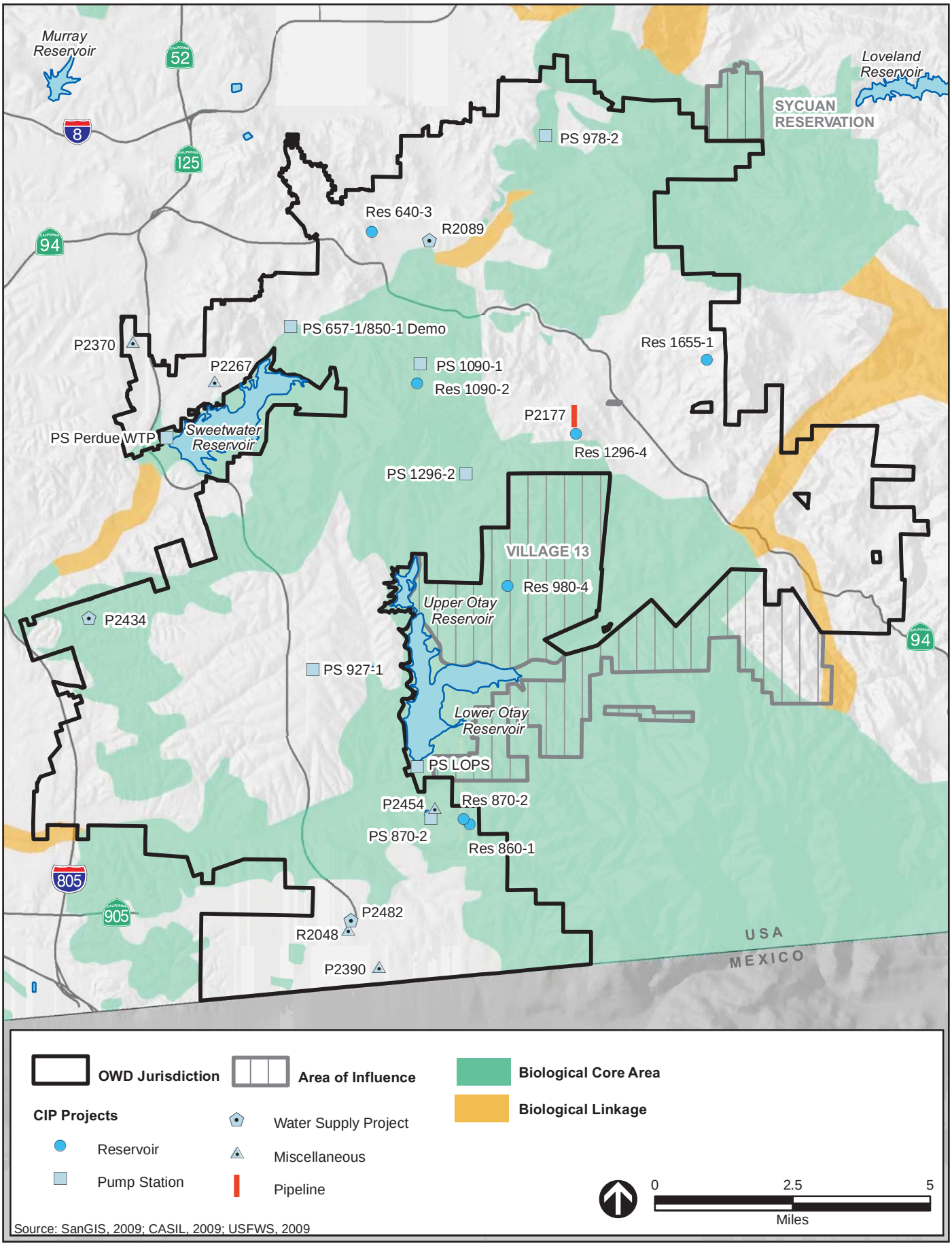
The following section addresses special-status biological resources which have the potential to occur within the planning area. For the purposes of this PEIR, "special status" species include plant and animal species that have been recognized by either federal or State resource management agencies, conservation 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, CDFG, 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.

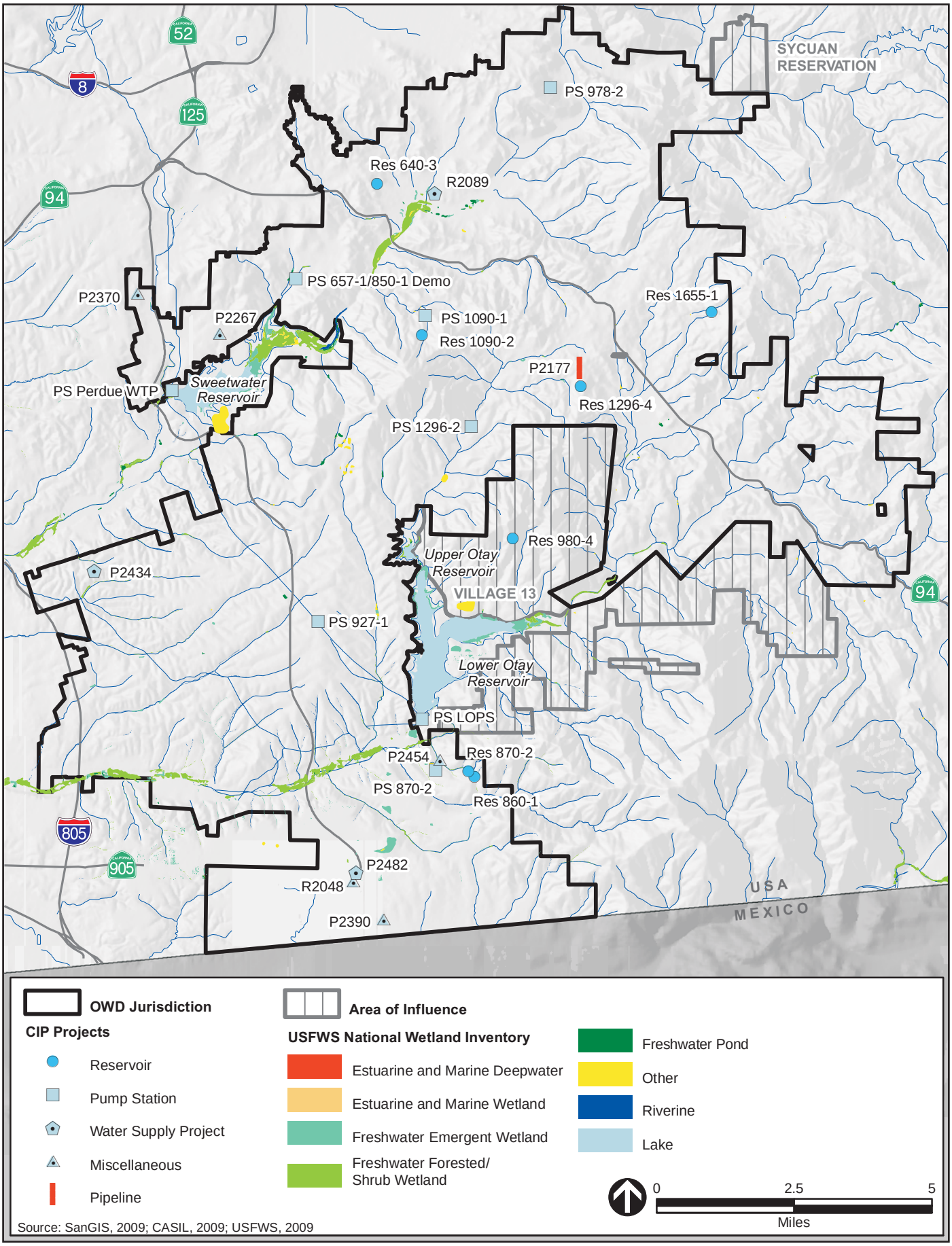
Sensitivity Designations

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.



MSCP Wildlife Corridors within the WRMP Planning Area

Figure 4.2-2



WETLANDS ASSOCIATED WITH CIP PROJECTS WITHIN WRMP PLANNING AREA

FIGURE 4.2-3

The CDFG 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 CDFG 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 CDFG 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 CDFG 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 CDFG considers species on Lists 1A, 1B, or 2 of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (Skinner and Pavlik 1994) as qualifying for consideration under this CEQA provision. Species on the CNPS List 3 or 4 may, but generally do not, qualify for protection under this provision. Species on CNPS List 1A are "presumed extinct in California." Species on List 1B are "rare or endangered in California and elsewhere." Species on List 2 are "rare or endangered in California and are more common elsewhere." Species on Lists 3 and 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 CDFG. 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
- ~~Needlegrass~~ 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

~~Non-native grassland and chaparral (including chamise chaparral and mixed chaparral) occur within the planning area and are not considered sensitive, but may harbor sensitive plant or animal species.~~

Special Status Plants

Appendix B lists the 39 special-status plant species that potentially occur within the planning area. Nomenclature of these species conforms to Holland (1986). Habitat requirements were derived from *Rare Plants of San Diego County* (Reiser, 1994). Five of the special-status plant species are federally endangered, and four are federally threatened. Six of the special-status species are recognized under CESA as State endangered, and three are listed under the California Native Plant Protection Act as rare. None of the special-status species are listed as State threatened or State candidate for listing under CESA. Most of the special-status plant species within the planning area are CNPS List 1B or 2 species, none are on List 3, and six are on List 4.

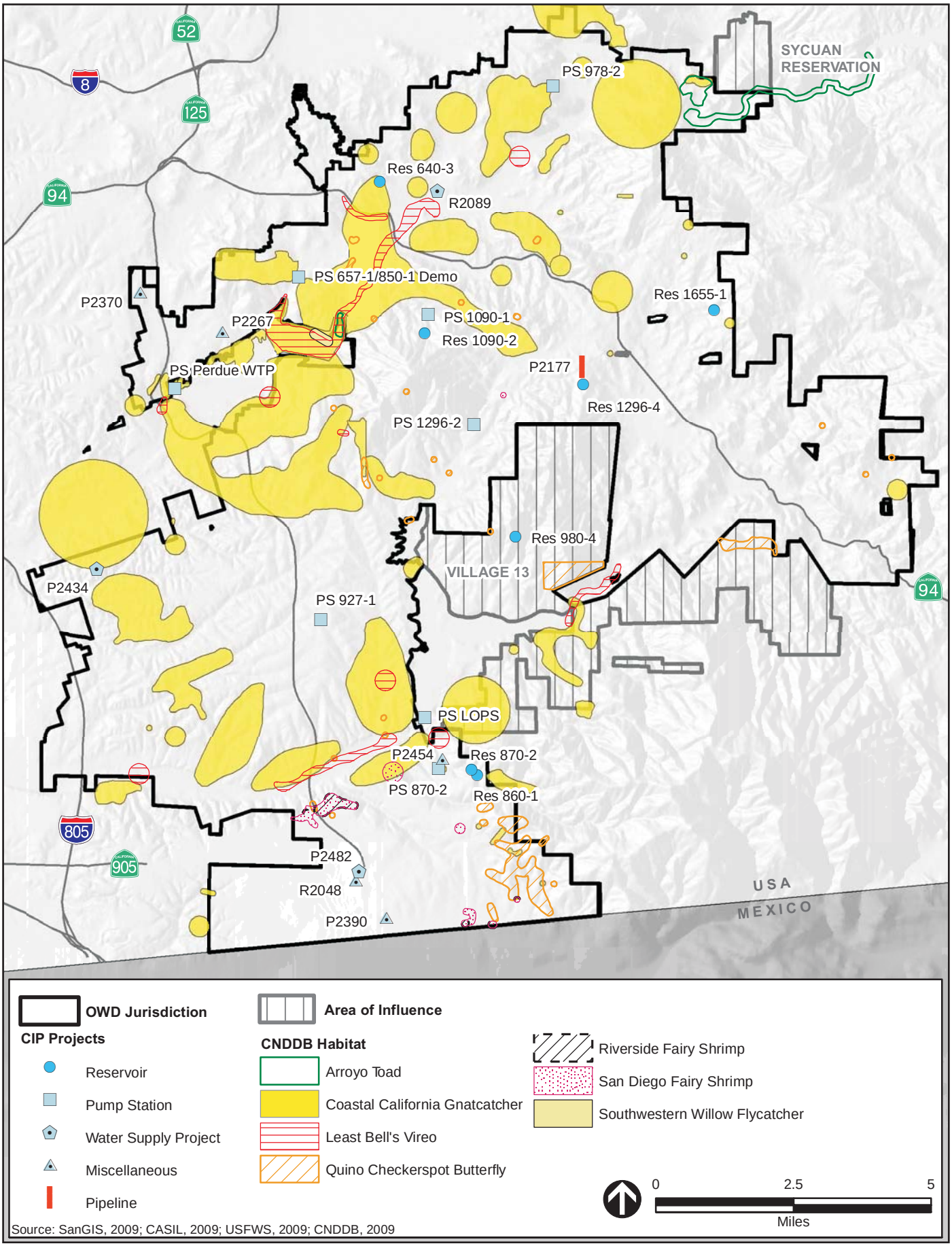
Special Status Animals

Appendix B lists the 41 special-status animal species that potentially occur within the planning area. Nomenclature of these species conforms to the American Ornithological Union (AOU 2000) for birds; the CDFG (Jennings 1983, Stebbins 2003) for reptiles and amphibians; *California Insects* (Powell 1979) for insects; and *The Revised Checklist of North American Mammals North of Mexico* (Jones 1992) for mammals. Of these species, twenty-five are birds, six are mammals, five are reptiles, one is an amphibian, and four are invertebrates, including crustaceans, insects, and mollusks.

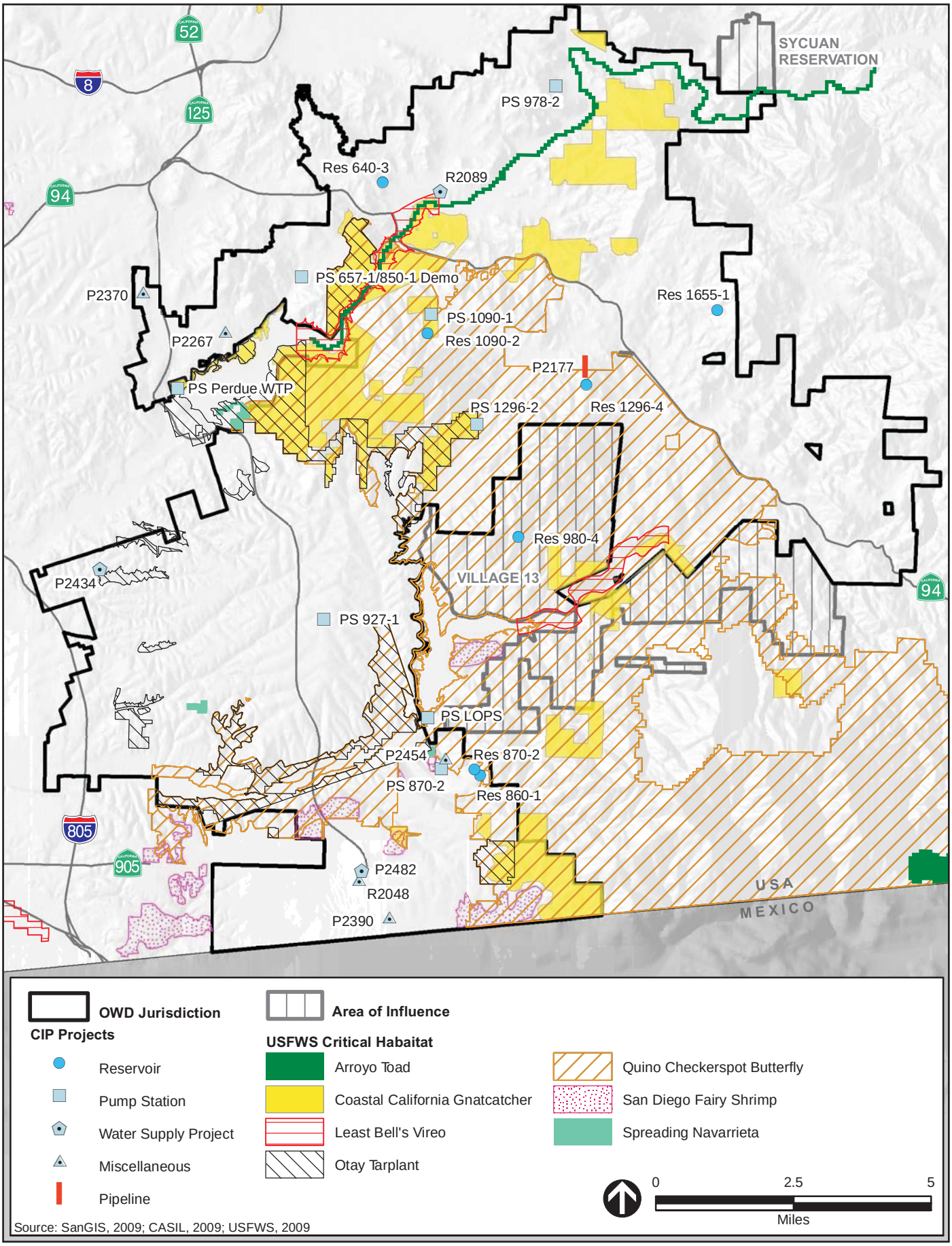
Eight of the special-status animal species are federally endangered, two are federally threatened, one is proposed for federal listing, one is protected under the Bald Eagle Protection Act, and one has been delisted. Under CESA, seven of the special-status species are recognized as State-endangered, one is listed as State-threatened, one is fully-protected, and twenty-six are listed as SSC.

Critical Habitat

There are nine federally listed plants and ten federally listed animals with ranges that overlap the planning area. Seven of these species have had recorded occurrences by the CNDDB within the planning area (Figure 4.2-4). Each colored polygon on this figure represents one individual siting of that species within that colored area. 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 (i.e., a single point has a greater degree of certainty of occurrence than a larger, irregular shaped polygon). 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 five animals and two plants within the planning area. These species include Quino checkerspot butterfly (*Euphydryas editha quino*), San Diego fairy shrimp (*Branchinecta sandiegoensis*), Arroyo southwestern toad (*Bufo californicus*), California gnatcatcher, least Bell's vireo (*Vireo bellii pusillus*), Otay tarplant (*Deinandra conjugens*), and spreading navarretia (*Navarretia fossalis Moran*). These critical habitat areas are shown in Figure 4.2-5.



POTENTIALLY OCCURRING FEDERALLY LISTED SPECIES WITHIN WRMP PLANNING AREA **FIGURE 4.2-4**



USFWS Critical Habitat within WRMP Planning Area

Figure 4.2-5

4.2.2 REGULATORY FRAMEWORK

4.2.2.1 Federal Regulations

Section 404 of the Clean Water Act (CWA)

Section 404 of the CWA requires that a permit be obtained from the Corps prior to the discharge of dredged or fill materials into any "waters of the United States," including wetlands. Waters of the United States are broadly defined in the Corps' 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." The Corps is required to consult with the U.S. Environmental Protection Agency, USFWS, CDFG, State Water Resources Control Board (SWRCB), and the various Regional Water Quality Control Boards (RWQCBs) throughout the State in carrying out its discretionary authority under Section 404.

Section 401 of the CWA

A Section 401 Water Quality Certification, 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 United States, 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 Migratory Bird Treaty Act (MBTA) of 1918 (16 United States Code 703-711) 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 C.F.R. § 17.3). Migratory birds include geese, ducks, shorebirds, raptors, songbirds, and many other species. Generally, applicants who obtain an FESA Section 10(a) permit simultaneously receive a three-year MBTA permit for FESA-listed migratory birds.

Bald and Golden Eagle Protection Act

Enacted in 1940, this Act 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 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 C.F.R. § 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 Habitat Conservation Plan (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 U.S.C. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 U.S.C. § 1539(a)(2)(A)).

USFWS San Diego National Wildlife Refuge (NWR)

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 4.2-6). The entire San Diego NWR comprises 44,000 acres and contains important preserves of coastal sage and chaparral habitats.

4.2.2.2 State Regulations

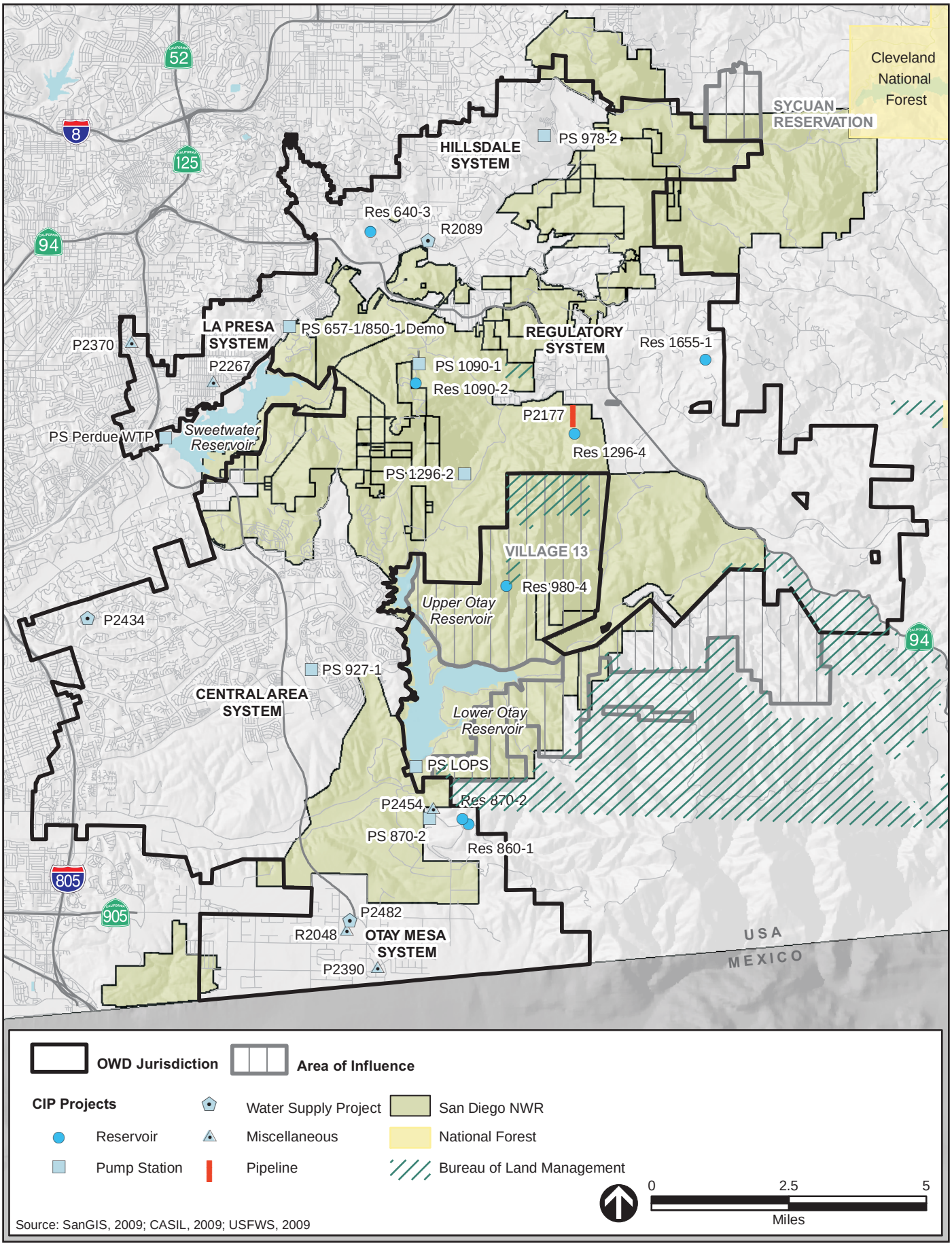
California Endangered Species Act (CESA)

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 CDFG 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.



USFWS San Diego National Wildlife Refuge Within the WRMP Planning Area

Figure 4.2-6

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

This section of the CCR 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.

Sections 1601 to 1603 of the California Fish and Game Code

Streambeds and other drainages that occur within ~~the proposed~~ a CIP project site are subject to regulation by the CDFG. The CDFG 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. CDFG jurisdiction typically extends to the edge of the riparian canopy and, therefore, usually encompasses a larger area than Corps jurisdiction. A Streambed Alteration Agreement must be obtained from the CDFG 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.

Sections 2080(b) and 2080(c) of the California Fish and Game Code

These sections of the Fish and Game Code establish that the CDFG 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.

Sections 3503, 3503.5, and 3800 of the California Fish and Game Code

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 CDFG 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 (NCCP) Act of 1991

The NCCP Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land uses. CDFG 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.

CDFG Ecological Reserves

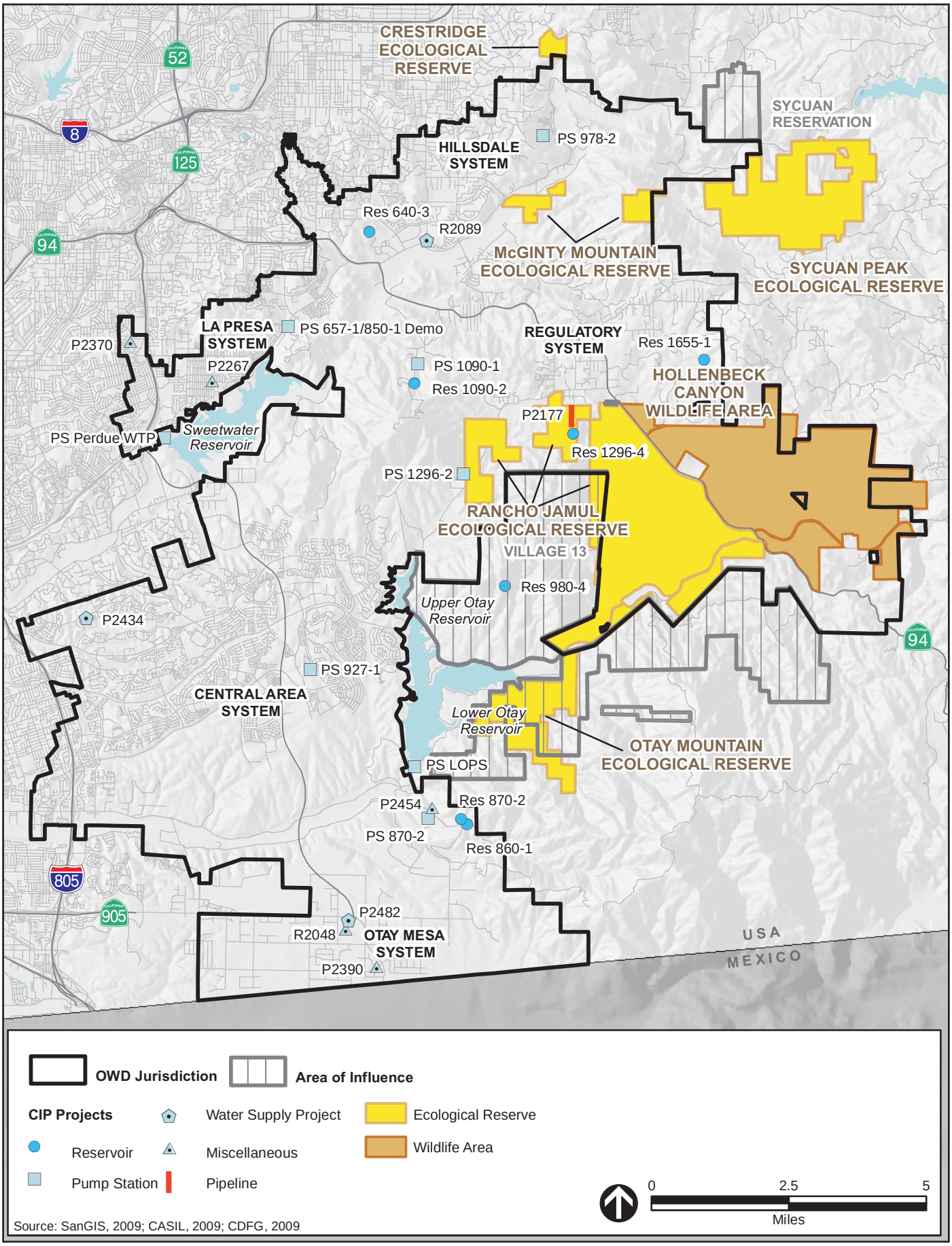
A system of 119 ecological reserves has been established throughout California to provide protection for plant and animal species and their habitats, especially those that are endangered or threatened. The ecological reserve system was authorized by the State legislature in 1968. The mission of the reserve system is the conservation and protection of rare plants, animals and habitats, and to provide areas for education and scientific research. Portions of the CDFG ~~Otay Mountain Ecological Reserve and the~~ Rancho Jamul and McGinty Mountain Ecological Reserves and the Hollenbeck Canyon Wildlife Area occur within the planning area (Figure 4.2-7). In addition, a portion of the CDFG Otay Mountain Ecological Reserve occurs within the "Area of Influence" associated with the planning area.

4.2.2.3 Local Regulations

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.



CDFG Ecological Reserves and Wildlife Areas Within the WRMP Planning Area

Figure 4.2-7

The 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 (184,248 acres is habitat), of which 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 an 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's MSCP Subarea Plan.

County of San Diego Habitat Loss Permit (HLP) Ordinance

The San Diego County 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, the 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 (CSS) habitat types. The Ordinance requires an HLP if CSS 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.

OWD MSCP Subarea Plan

The OWD is currently in the process of preparing a MSCP Subarea Plan which will be reviewed and approved by USFWS and CDFG. The Plan will include measures for avoiding or minimizing impacts to biological resources as a result of the construction or operation of OWD projects. Once approved by the USFWS and CDFG, the OWD Subarea Plan will be submitted to a consortium of water agencies in the southwest region of San Diego County that comprise the Joint Water Authority (JWA), where it will undergo an amendment process for eventual incorporation into the JWA NCCP/HCP. This Subarea Plan will allow for the issuance of any applicable State and federal take authorizations for 27 species of sensitive plants and animals within the planning area. This Subarea Plan will include use of the San Miguel Habitat Management Area (HMA), a 230-acre biological reserve located within the planning area.

4.2.3 IMPACTS AND MITIGATION

4.2.3.1 Issue 1 –Sensitive Species and Habitats

Biological Resources Issue 1 Summary

Would implementation of the 2009 WRMP Update result in a substantial adverse effect, either directly or through habitat modifications, on any sensitive or special-status species or sensitive habitats?

Impact: Implementation of the 2009 WRMP Update would result in direct impacts to sensitive plant and animal species.	**Mitigation**: Pre-construction surveys and noise attenuation (Bio-1A through Bio-1C); shielding of construction lighting (Bio-1D); delineation of construction limits and staging areas (Bio-1E)
Significance Before Mitigation: Potentially significant.	**Significance After Mitigation**: Less than significant.

Project Design Features/Standard Construction Practices

~~There are no PDFs or SCPs identified~~ Implementation of the 2009 WRMP 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 CIP projects 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 nonnative 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.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2009 WRMP 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 CDFG or USFWS.

Impact Analysis

Potential biological impacts resulting from implementation of the 2009 WRMP 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 2009 WRMP Update would have the potential to result in direct impacts to special-status plant and wildlife species and/or sensitive habitats.

CIP Reservoir Projects

Direct biological impacts associated with CIP reservoir projects are evaluated below.

Res 640-3. This new reservoir would be constructed on undeveloped land directly east of the existing 640-1 and 640-2 reservoirs, within an approximately 70-acre site owned by OWD. A biological survey, sensitive plant survey and wetland delineation were conducted at this site in 2005 as part of the *Mitigated Negative Declaration for the 640-1 and 640-2 Reservoirs* (HDR, 2006). The 2005 biological studies identified the following sensitive species and habitats within the 70-acre site: Palmer's goldenbush (*Ericameria palmeri*), California gnatcatcher, San Diego black-tailed jackrabbit, San Diego desert woodrat, western whiptail, western spadefoot toad (*Scaphiopus hammondii*), wetlands, and coastal sage scrub. The potential presence of California gnatcatcher onsite and/or in the vicinity of the site has also been previously documented by CNDDB (Figure 4.2-4). As depicted in Figure 4.2-1, this project would be located within, and/or adjacent to, a "Conserved Preserve Area", "Pre-Approved Mitigation Area", and "Take Authorized Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, wetland buffers, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. Should the reservoir be constructed on the portion of the site that is disturbed, potential impacts to sensitive biological resources would be avoided. However, the final location of the reservoir is unknown at this time; therefore, biological impacts remain potentially significant.

Res 1655-1. This reservoir would be constructed on undeveloped land, east of existing residences within the Rancho Jamul Estates. Although the project site has been partially disturbed from grading associated with a dirt road that passes through it, sensitive habitat may exist on or adjacent to the site. Therefore, construction of Res 1655-1 could have significant direct impacts to sensitive species and habitats.

Res 1090-2. This new reservoir would be constructed on undeveloped land adjacent to the existing 1090-1 Reservoir. Native vegetation occurs on and adjacent to this project site which could contain sensitive biological resources. In addition, this project would be located within designated critical habitat for California gnatcatcher and Quino checkerspot butterfly (Figure 4.2-5). Therefore, construction of Res 1090-2 could have significant direct impacts to sensitive species and habitats.

Res 1296-4. This new reservoir would be constructed on undeveloped land within the CDFG Rancho Jamul Ecological Reserve. According to the CNDDB, the following sensitive species have been recorded within this Reserve: California gnatcatcher, golden eagle, northern harrier, red-tailed hawk, California rufous-crowned sparrow, white-tailed kite, orange-throated whiptail, San Diego horned lizard, western whiptail (*Cnemidophorus tigris*), American badger, gray fox, mule deer, and San Diego black-tailed jackrabbit. As depicted in Figure 4.2-1, this project would be located within a "Conserved Preserve Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. In addition, this project would be located within designated critical habitat for Quino checkerspot butterfly (Figure 4.2-5). Therefore, construction of Res 1294-4 could have significant direct impacts to sensitive species and habitats.

Res 980-4. This new reservoir would be constructed on an undeveloped hilltop within the WRMP Area of Influence in the Jamul Mountains, northeast of Upper Otay Reservoir. This site has not been assessed for biological resources and could contain sensitive species and habitats. As depicted in Figure 4.2-1, this project would be located within a "Conserved Preserve Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. In addition, this project would be located within designated critical habitat for Quino checkerspot butterfly (Figure 4.2-5). Therefore, construction of Res 980-4 could have significant direct impacts to sensitive species and habitats.

Res 860-1 and Res 870-2. These new reservoirs would be constructed on a highly degraded site adjacent to the existing 870-1 Reservoir. Although the likelihood of this CIP project impacting sensitive species or habitats is low, there appears to be a natural drainage feature in the southwest corner of the site that could contain sensitive biological resources. As depicted in Figure 4.2-1, this project would be located within a "Take Authorized Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, wetland buffers, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. In addition, these projects would be located within designated critical habitat for Quino checkerspot butterfly (Figure 4.2-5). Therefore, construction of Res 860-1 and Res 870-2 could have significant direct impacts to sensitive species and habitats.

CIP Pump Station Projects

Direct biological impacts associated with CIP pump station projects are evaluated below.

PS 978-2. This new pump station would be constructed on undeveloped land adjacent to the existing 803-3 Reservoir, near the Singing Hills Country Club. This area contains habitat that could support sensitive biological resources. The potential presence of California gnatcatcher onsite and/or in the vicinity of the site has also been previously documented by CNDDB (Figure 4.2-4). As depicted in Figure 4.2-1, this project would be located within a "Pre-Approved Mitigation Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, wetland buffers, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. Therefore, construction of PS 978-2 could have significant direct impacts to sensitive species and habitats.

PS 657-1/850-1 Demolition. Although the potential presence of California gnatcatcher has been previously documented by CNDDB in the vicinity of this site (Figure 4.2-4), the demolition of these existing pump stations would remain within the developed footprint. Therefore, this CIP project would not directly impact sensitive species and habitats.

PS 1090-1. This new pump station would be constructed on a highly disturbed site (graded and covered with gravel) owned by OWD, and adjacent to the existing 1090-1 Reservoir. The site does not contain habitat that would support biological resources; however, it is located within designated critical habitat for California gnatcatcher and Quino checkerspot butterfly (Figure 4.2-5). As depicted in Figure 4.2-1, this project would be located near a "Conserved Preserve Area" and "Take Authorized Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. Therefore, PS 1090-1 could have significant direct impacts to sensitive species.

PS 1296-2. This new pump station would be constructed along the unpaved Proctor Valley Road, which traverses undeveloped land within the CDFG Rancho Jamul Ecological Reservoir that has been disturbed by past grazing activities and grading for the dirt road; however, some areas along this road could contain sensitive biological resources. As depicted in Figure 4.2-1, this project would be located near a

"Conserved Preserve Area" and "Take Authorized Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. In addition, this project would be located within designated critical habitat for California gnatcatcher, Quino checkerspot butterfly and Otay tarplant (Figure 4.2-5). Therefore, construction of PS 1296-2 could have significant direct impacts to sensitive species and habitats.

PS 927-1 Upgrade. The upgrade of this existing pump station would remain within the developed footprint; therefore, this CIP project would not directly impact sensitive species and habitats.

PS LOPS. This new pump station would be constructed on a highly disturbed site adjacent to the temporary Lower Otay Pump Station and southwest of the Otay Water Treatment Plant, which is owned and operated by the City of San Diego. The site does not contain habitat that would support biological resources; however, it is located within designated critical habitat for Quino checkerspot butterfly (Figure 4.2-5). As depicted in Figure 4.2-1, this project would be located within a "Take Authorized Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. Therefore, PS LOPS could have significant direct impacts to sensitive species.

PS 870-2. This new pump station would be constructed within the fenced limits of a highly disturbed site (graded and covered with gravel) owned by OWD, and adjacent to the existing Low-Head and PS 871-1 pump stations and the existing 571-1 Reservoir. Although the site is located within designated critical habitat areas for Quino checkerspot butterfly and San Diego fairy shrimp (Figure 4.2-5), it does not contain habitat that would support these listed species or other biological resources. Therefore, PS 870-2 would not directly impact sensitive species and habitats.

PS Perdue WTP (P2391). This new pump station would be constructed south of the existing Robert A. Purdue Water Treatment Plant, west of Sweetwater Reservoir. The pump station site would be within OWD facility property, which is developed. Although the site is located within designated critical habitat areas for California gnatcatcher and Otay tarplant (Figure 4.2-5), it does not contain habitat that would support these listed species or other biological resources. Therefore, PS Perdue WTP would not directly impact sensitive species and habitats.

CIP Pipeline Projects

With the exception of Pipeline P2177, it is assumed that all CIP pipelines would be installed within existing paved roadways as part of a local agency public improvement or CIP project, or concurrently with the construction of planned roadways by private developers (Table 4.2-1). If the timing of any of the pipelines listed in Table 4.2-1 is such that they would need to be installed prior to construction of the planned roadways, then they could result in significant direct impacts to sensitive species and habitats. CIP Project P2177 would be installed through the CDFG Rancho Jamul Ecological Reserve to connect to Res 1296-4. As discussed above, several sensitive species have been recorded within this Reserve. As depicted in Figure 4.2-1, this project would traverse a "Conserved Preserve Area" and "Take Authorized Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. In addition, a portion of this pipeline would be located within designated critical habitat for Quino checkerspot butterfly (Figure 4.2-5). Therefore, construction of Pipeline P2177 could have significant direct impacts to sensitive species and habitats.

Table 4.2-1. CIP Pipeline Projects within Planned Roadways

Project No.	Project Description	Length (ft)
Phase II (2009 - 2016) Recycled Water Pipeline CIP Projects		
R2042	RecPL - 8-Inch, 944 Zone, Rock Mountain Road - SR-125/EastLake	3,430
R2082	RecPL - 24-Inch, 680 Zone, Olympic Parkway - Village 2/Heritage	3,100
R2083	RecPL - 20-Inch, 680 Zone, Heritage Road - Village 2/Olympic	1,280
R2084	RecPL - 20-Inch, 680 Zone, Village 2 - Heritage/La Media	5,000
R2085	RecPL - 20-Inch, 680 Zone, La Media - State/Olympic	2,740
Phase III (2017 - Ultimate) Potable Water Pipeline CIP Projects		
P2138	PL 20-in Village 13	2,900
Phase III (2017 - Ultimate) Recycled Water Pipeline CIP Projects		
R2037	RecPL - 8-Inch, 680 Zone, La Media Road - Rock Mountain/Otay Valley	4,050
R2038	RecPL - 8-Inch, 680 Zone, Rock Mountain Road - La Media/Otay Valley	7,300
R2043	RecPL - 8-Inch, 944 Zone, Rock Mountain Road - La Media/SR 125	2,600
R2078	RecPL - 8-Inch, 680 Zone, Otay Valley Road - SR 125/Heritage	13,920

CIP Water Supply Projects

Direct biological impacts associated with the CIP water supply projects are evaluated below.

P2434. The Rancho Del Rey Well development project would be constructed within the boundaries of an existing well site that is graded and disturbed. Although the potential presence of California gnatcatcher has been previously documented by CNDDB in the vicinity of this site (Figure 4.2-4) and the site is located near a designated critical habitat area for Otay tarplant (Figure 4.2-5), it does not contain habitat that would support biological resources. Therefore, P2434 would not directly impact sensitive species and habitats.

R2089. The North District Recycled Water Concept project would entail retrofitting two existing recycled water storage tanks, Res 832-1 and Res 832-2, and installation of recycled water pipelines within existing rights-of-way. However, this project is still in the design phase at this time. The exact alignments of the pipelines associated with this project may change; pipelines may need to be installed in areas outside of existing rights-of-way which could result in potential disturbance to biological resources. As depicted in Figure 4.2-1, this project would be located near a "Conserved Preserve Area" of the County of San Diego MSCP, and as such, could result in direct impacts to sensitive vegetation communities, wetland buffers, covered species, and a core biological resources area associated with the County MSCP Subarea Plan. In addition, some pipeline segments may be located within designated critical habitat for least Bell's vireo (Figure 4.2-5). Therefore, R2089 could have significant direct impacts to sensitive species and habitats.

P2482. The proposed wells associated with the Otay Mesa Lot 7 Groundwater Well development project would be located within an industrial area. The project sites do not contain habitat that would support biological resources; therefore, P2482 would not directly impact sensitive species and habitats.

Miscellaneous CIP Projects

Of the five miscellaneous CIP projects described in Section 3.4.4.4 (Project Description) of this PEIR, P2267, P2390 and R2048 would involve the installation of pipelines and appurtenances under existing or planned roadways or within a future bridge crossing; and P2370 would involve the demolition of the existing Dorchester Reservoir and Pump Station within the developed footprint of these facilities. Therefore, these projects would not directly impact sensitive species or habitats.

P2454. Because this project would involve installation of meters and vaults for potable and recycled water systems under Alta Road, near the City of San Diego Otay Water Treatment Plant, it would not impact habitat that would support listed species or other biological resources, although adjacent areas are located within designated critical habitat for Quino checkerspot butterfly and San Diego fairy shrimp (Figure 4.2-5). Therefore, P2454 would not directly impact sensitive species and habitats.

Indirect Impacts

Potential indirect impacts to sensitive species and habitats from construction of CIP projects under the 2009 WRMP Update could include impaired water quality, fugitive dust, noise, night lighting, ~~and~~ 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 2009 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. ~~Temporary, construction-related~~ Potential impacts from ~~decreased~~ impaired water quality (e.g., erosion/sedimentation from graded areas, storm water runoff pollution from oil leaks during construction and from paved areas pot-construction, etc.) 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 4.6.3.1, 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. Therefore, construction of Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, Pipeline P2177, and R2089 could have significant indirect construction noise impacts to sensitive avian species.

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 4.9.3.1, 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 CIP projects 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. Therefore, construction of Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, Pipeline P2177, and R2089 could have significant indirect night lighting impacts to nocturnal sensitive animal species.

For above-ground CIP facilities (i.e., storage reservoirs/tanks and pump stations) under the 2009 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 4.6.3.1, Hydrology, of this PEIR). CIP construction activities could result in inadvertent intrusions of construction equipment and personnel into sensitive habitats adjacent to construction zones. Therefore, construction of Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, PS LOPS, Pipeline P2177, R2089, and P2454 could have significant indirect impacts to sensitive species and habitats due to inadvertent intrusions of equipment and personnel beyond the delineated limits of work.

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 ~~At least eight (8) weeks prior to vegetation clearing, grading, and/or construction activities~~ During the design phase for the following CIP projects, OWD shall retain a qualified biologist to conduct ~~pre-construction~~ 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: Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, PS LOPS, Pipeline P2177, R2089, and P2454.

Bio-1B If the ~~pre-construction~~ 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 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 ~~longer than three (3) weeks~~ 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 ~~or until after August 31~~.

   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 CDFG 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 ten (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 ~~February~~ 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~~, or until after July 31~~. Documentation of the raptor surveys and any follow-up monitoring, as necessary, shall be provided to OWD and USFWS within ten (10) days of completing the final survey or monitoring event.

iv. For CIP projects 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 CIP projects 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), ~~and~~ 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), ~~and~~ 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 CDFG: 1) Debit credits from the San Miguel HMA upon approval of the OWD MSCP Subarea Plan (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 mitigation ratios to be ~~determined~~ 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;

Table 4.2-2. San Miguel HMA - Mitigation Bank Transaction Summary

Year	Description	Coastal Sage Scrub	Chamise Chaparral	NNG/Sage Ecotone	Native Grassland	Nonnative Grassland	Nonnative 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 P2009 36-inch pipeline	(1.90)													(1.90)
2009	**Final Values**	**135.565**	**0.375**	**0.743**	**0.055**	**7.973**	**12.483**	**0.609**	**2.808**	**2.664**	**2.529**	**0.639**	**1.425**	**0.135**	**170.123**

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 ~~. 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 ~~monitoring and~~ maintenance requirements to ensure the success of the mitigation site(s).

c. If federal permits or funding are required for the following CIP projects (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: Res 1090-2 (California gnatcatcher and Quino checkerspot butterfly), Res 1296-4 (California gnatcatcher), Res 980-4 (Quino checkerspot butterfly), Res 860-1 (Quino checkerspot butterfly), Res 870-2 (Quino checkerspot butterfly), PS 1090-1 (California gnatcatcher and Quino checkerspot butterfly), PS 1296-2 (California gnatcatcher, Quino checkerspot butterfly and Otay tarplant), PS LOPS (Quino checkerspot butterfly), Pipeline P2177 (Quino checkerspot butterfly), R2089 (least Bell's vireo), and P2454 (Quino checkerspot butterfly and San Diego fairy shrimp). Conditions outlined in the Biological Opinion (BO) resulting from the Section 7 Consultations shall be implemented according to the responsible parties and the timing identified in the BO. In the absence of federal permits or funding, a Section 10(a)(1)(B) permit shall be obtained for the above-listed projects.

Bio-1C Prior to vegetation clearing, grading, and/or construction activities for the following CIP projects, 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: Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, PS LOPS, Pipeline P2177, R2089, and P2454.

Bio-1D Prior to vegetation clearing, grading, and/or construction activities for the following CIP projects, 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: Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, PS LOPS, Pipeline P2177, R2089, and P2454. 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 for the following CIP projects, a qualified biologist shall monitor these activities: Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1090-1, PS 1296-2, PS LOPS, Pipeline P2177, R2089, and P2454. 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.

4.2.4 CUMULATIVE IMPACTS AND MITIGATION

Biological Resources Cumulative Issue Summary

Would implementation of the 2009 WRMP Update have a cumulatively considerable contribution to a cumulative biological resources impact considering past, present, and probable future projects?

Cumulative Impact	Significance	Proposed Project Contribution
Regional loss of sensitive plants, animals, and vegetation communities.	Potentially significant.	Not cumulatively considerable with implementation of performance measures Bio-1A through Bio-1E.

4.2.4.1 Sensitive Species and Habitats

As indicated in Table 4.0-1 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 4.0-5 through 4.0-9 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 above, construction of some CIP projects under the 2009 WRMP 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 th~~o~~rough Bio-1E would reduce these project-related impacts to less than significant levels. Therefore, with implementation of performance measures Bio-1A th~~o~~rough Bio-1E, development of CIP projects under the 2009 WRMP

Update would not result in a cumulatively considerable contribution to the loss of sensitive biological resources within the regional cumulative impact area.

4.2.5 CEQA CHECKLIST ITEMS DEEMED NOT SIGNIFICANT OR NOT APPLICABLE TO THE 2009 WRMP UPDATE

Would implementation of the 2009 WRMP Update have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA?

As shown on Figure 4.2-3, none of the CIP projects under the 2009 WRMP Update would occur on or near federally protected wetlands, based on information provided by the USFWS National Wetland Inventory. Therefore, no further analysis is required.

Would implementation of the 2009 WRMP Update interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident migratory corridors?

Although one or more recycled water pipeline alignments associated with the North District Recycled Water Concept project (R2089) could potentially fall within or adjacent to the MSCP wildlife corridor labeled as Corridor "1" in Figure 4.2-2, potential construction-related impacts to animals that may be using this wildlife corridor would be reduced to less than significant levels with implementation of noise monitoring (refer to performance measure Bio-1B(i)(b) above); temporary construction fencing (refer to performance measure Bio-1D above); and night-lighting controls (refer to performance measure Bio-1E above). Once these pipelines have been installed underground, they would not interfere substantially with the movement of any native resident or migratory fish or wildlife species. None of the remaining CIP projects under the 2009 WRMP Update would fall within or near the identified wildlife corridors, and would not restrict wildlife movements. Therefore, no further analysis is required.

Would implementation of the 2009 WRMP Update conflict with any local policies or ordinances protecting biological resources?

As discussed in Section 4.8.2.1 (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 2009 WRMP 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's 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.

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4.3 CULTURAL RESOURCES

This section of the PEIR for the 2009 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 2009 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

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.

4.3.1.1 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).

4.3.1.2 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, Imperial Beach, National City, 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 Visa 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).

Imperial Beach and Palm City were developed after Chula Vista. In the early times of these communities, they shared many resources, with the exception of having separate school districts. In more recent years, similar to Chula Vista, Imperial Beach has become a residential and retail area. However, construction of I-5 through a large portion of Palm City has resulted in a decline in growth in this area (HDR 2004).

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 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 ~~50~~ 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.

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 Sites Board

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

4.3.3 IMPACTS AND MITIGATION

4.3.3.1 Issue 1 – Historical Resources

Cultural Resources Issue 1 Summary

Would implementation of the 2009 WRMP Update cause a substantial adverse change in the significance of an historical resource as defined in Section 15064.5?

Impact: Implementation of a historical building assessment prior to demolition of PS 657-1 and PS 850-1, and a subsequent documentation/treatment program as necessary, would reduce impacts to potential historical resources. ~~None of the buildings or structures that would be affected by the 2009 WRMP Update qualify as historical resources as defined in 15064.5. Therefore, implementation of the 2009 WRMP Update would not result in a substantial adverse impact to historical resources.~~

Mitigation: No further mitigation is required.

Significance Before Mitigation: Less than significant. ~~No Impact.~~

Significance After Mitigation: No Impact.

Project Design Features/Standard Construction Practices

~~There are no PDFs or SCPs identified to reduce potential impacts to historical resources.~~ There are no Implementation of the 2009 WRMP Update would include, but would not be limited to, the following PDFs or SCPs identified to reduce potential impacts to potential historical resources.:

Cul-PDF-1 Approximately six months prior to demolition of PS 657-1 and PS 850-1, 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:

- 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.

- 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.

- 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 2009 WRMP 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 ~~50~~ 45years 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 2009 WRMP Update would include two pump stations on one site (PS 657-1 and PS 850-1), a chlorine disinfection facility on the site of Res 870-2, and P2370. 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 850-1 are both ~~roughly~~ more than ~~50~~ 45 years of age, being built in 1957 and 1959, respectively. ~~Although~~ 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 PS 657-1 and PS 850-1 under the 2009 WRMP Update to a less than significant level. ~~they are not architecturally distinctive, are unlikely to yield any important information about historic periods or individuals, and would be very unlikely to qualify for the CRHR. Therefore, implementation of the 2009 WRMP Update would not cause a substantial adverse change in the significance of an historical resource.~~

Mitigation/Performance Measures

If one or both of the existing pump station structures associated with the PS 657-1/PS 850-1 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.~~Implementation of the 2009 WRMP Update would not cause a substantial adverse change in the significance of an historical resource; therefore, no mitigation is required.~~

4.3.3.2 Issue 2 – Archaeological Resources

Cultural Resources Issue 2 Summary

Would implementation of the 2009 WRMP Update cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Impact: Ground disturbance associated with construction of certain CIP projects under the 2009 WRMP Update has the potential to impact potentially significant unknown archaeological resources.

Mitigation: Implementation of a cultural resources monitoring and data recovery program by a qualified archaeologist (Cul-2A through Cul-2C).

Significance Before Mitigation: Potentially Significant.

Significance After Mitigation: Less than Significant.

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 2009 WRMP 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, including R2089, P2267, P2454, and R2048, 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, including R2089, P2267, P2454, and R2048, could have significant impacts to potential archaeological resources.

With the exception of Res 640-3, PS 927-1, PS 1090-1, PS 657-1/850-1, and P2370, ground-disturbing activities (e.g., grading, trenching, excavation) and equipment/material staging areas associated with the construction of CIP reservoirs and pump stations under the 2009 WRMP 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 previously been developed. Res 640-3 would be located next to the existing Res 640-1 and Res 640-2. 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, record search, or field survey. As such, no further research regarding cultural resources at this site was recommended in the referenced MND. Additionally, PS 927-1 and PS 1090-1 would involve upgrading two existing pump stations, and PS 657-1/850-1 would involve demolishing two existing pump stations. CIP project P2370, the Dorchester Reservoir and Pump Station Demolition, would involve demolishing the existing reservoir and pump station. As such, these CIP projects would not involve ground disturbance or excavation that could potentially damage or destroy archaeological resources. Therefore, only ground-disturbing activities associated with the following CIP reservoirs, pump stations, and groundwater wells could have significant impacts to potential archaeological resources: Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 870-2, Res 860-1, PS 978-2, PS 1296-2, PS LOPS, PS 870-2, PS Perdue WTP, P2434, and P2482.

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 During the design phase for all CIP pipeline projects within the 2009 WRMP Update, including R2089, P2267, P2454, and R2048, 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 pipeline trenching activities, then a cultural resources monitoring program shall be implemented in accordance with measures Cul-2B through Cul-2C.

Cul-2B Prior to grading for the following CIP projects, the OWD shall retain a qualified archaeologist to monitor all ground-disturbing activities in coordination with a Native American monitor (as applicable): Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 870-2, Res 860-1, PS 978-2, PS 1296-2, PS LOPS, PS 870-2, PS Perdue WTP, P2434, and P2482. 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-2C 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. ~~The OWD shall also immediately notify the San Diego Museum of Man at the time of discovery.~~ 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 for evaluation, at which time the construction supervisor shall direct work to continue in the location of the discovery.

i. Prepare a research design and archaeological data recovery plan that will capture those categories of data for which the site is significant, and implement the data recovery plan. The significance of the discovered resources shall be determined in consultation with the ~~San Diego Museum of Man and the~~ Native American representative, as appropriate.

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. ~~If no such measures are feasible, then the impact shall be considered significant and unavoidable.~~

~~If the site contains human remains, as part of the data recovery plan, consult with appropriate parties such as the Medical Examiner, NAHC, MLD, and/or San Diego Museum of Man. Such consultation may include a pre-excavation agreement with the MLD.~~

iii. Perform appropriate technical analyses, prepare a report and file it with the ~~San Diego Museum of Man~~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 ~~San Diego Museum of Man and the~~ Native American representative, as applicable.

4.3.3.3 Issue 3 – Human Remains

Cultural Resources Issue 3 Summary

Would implementation of the 2009 WRMP Update disturb any human remains, including those interred outside of formal cemeteries?

Impact: 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.	**Mitigation:** No mitigation is required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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 2009 WRMP 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 2009 WRMP Update, with the exception of Res 640-3, PS 927-1, PS 1090-1 PS 657-1/850-1, and P2370 (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 2009 WRMP 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 2009 WRMP Update to a less than significant level; therefore, no mitigation is required.

4.3.4 CUMULATIVE IMPACTS AND MITIGATION

Cultural Resources Cumulative Issue Summary

Would implementation of the 2009 WRMP Update have a cumulatively considerable contribution to a cumulative cultural resources impact considering past, present, and probable future projects?

Cumulative Impact	Significant	WRMP Contribution
Regional loss of archaeological resources.	Yes	Not cumulatively considerable with implementation of measures Cul-2A through Cul-2C.
Regional loss of Native American human remains	Yes	Not cumulatively considerable with implementation of Cul-SCP-1.

According to Section 15130 of the CEQA Guidelines, cumulative impacts are evaluated for environmental issues for which the impacts associated with implementation of the 2009 WRMP Update would be significant or less than significant. Since implementation of the 2009 WRMP Update would not impact a historical resource, this issue is not addressed in this section.

4.3.4.1 Archaeological Resources

As indicated in Table 4.0-1 of this PEIR, the geographic context for the analysis of cumulative impacts to archaeological resources includes the planning area. Ground disturbance (e.g., grading, trenching, excavation) associated with implementation of some of the planned developments listed in Tables 4.0-5 through 4.0-9 in Chapter 4.0 of this PEIR 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 above, ground-disturbing activities within native soils associated with CIP pipelines and the following CIP reservoirs and pump stations could have significant impacts to potential archaeological resources: Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 870-2, Res 860-1, PS 978-2, PS 1296-2, PS LOPS, PS 870-2, PS Perdue WTP, P2434, and P2482. 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-2C, construction of the above-listed CIP projects under the

2009 WRMP Update would not result in a cumulatively considerable contribution to the loss of archaeological resources within the regional cumulative impact area.

4.3.4.2 Human Remains

As indicated in Table 4.0-1 of this PEIR, the geographic context for the analysis of cumulative impacts to Native American human remains includes the planning area. Ground disturbance (e.g., grading, trenching, excavation) associated with implementation of some of the planned developments listed in Tables 4.0-5 through 4.0-9 in Chapter 4.0 of this PEIR 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 above, implementation of the 2009 WRMP 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 2009 WRMP Update would not result in a cumulatively considerable contribution to the loss of Native American human remains within the regional cumulative impact area.

4.3.5 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2009 WRMP Update

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

4.3.6 References

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

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

Public Resources Code Section 21100(b)(3), CEQA Guidelines Section 15126.4, and CEQA Appendix F Energy Conservation require an analysis of the proposed project's energy consumption, to determine if the construction and operation of the project would employ a wise and efficient use of energy. The following section includes an analysis of the proposed project's energy usage.

Energy usage by the proposed project is also a consideration in assessing project impacts to global climate change. For further discussion of this issue, please refer to Section 4.1, Air Quality and Global Climate Change, in this EIR.

4.4.1 ENVIRONMENTAL SETTING

4.4.1.1 Existing Conditions

In 2008, a Carbon Footprint Assessment was prepared for the District, which provided a summary of data from existing OWD facilities of average energy usage (IFC Jones and Stokes, 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 District 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 Jones and Stokes, 2008). The primary source of electricity consumption in the District 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
(in Order of Firm Capacity)

Existing Pump Stations	Firm Capacity (gpm)	Average Monthly Electricity Consumption (kWh)
PS 860	100	1,419
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 Jones and Stokes, 2008

4.4.2 REGULATORY FRAMEWORK

State

State of 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.

4.4.3 IMPACTS AND MITIGATION

4.4.3.1 Issue 1 – Energy Consumption

Energy Issue 1 Summary

Would implementation of the 2009 WRMP Update result in the inefficient, wasteful, and unnecessary use of energy?

Impact: The construction and operation of CIP projects under the 2009 WRMP 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) at CIP projects P2434, P2482, PS 927-1, PS LOPS, PS Perdue WTP, PS 870-2, PS 1296-2, PS 1090-1, and PS 978-2 would ensure that energy use would not be inefficient, wasteful, or unnecessary.

Mitigation: No mitigation is required.

Significance Before Mitigation: Less than significant.

Significance After Mitigation: Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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, which include P2434, P2482, PS 927-1, PS LOPS, PS Perdue WTP, PS 870-2, PS 1296-2, PS 1090-1, and PS 978-2, ~~would~~ will use high efficiency pumps and motors.

Ene-PDF-2 All outdoor (security) lighting ~~used~~ installed at the above-ground CIP ~~project sites would be~~ facilities (i.e., storage reservoirs/tanks and pump stations) under the 2009 WRMP Update will use energy-efficient light emitting diodes (LEDs), with ~~. OWD would install~~ motion sensor lighting controls to limit ~~outdoor lighting~~ usage. Lighting adjacent to native vegetation communities will be of low illuminations, shielded, and directed

downwards and away from these areas to avoid potential impacts to nocturnal wildlife from increased predation that would occur from "spill-over" of nighttime light levels into the adjacent habitats.

Ene-PDF-3 OWD ~~would~~ will conduct annual pump efficiency tests at each CIP project featuring a pump, which includes P2434, P2482, PS 927-1, PS LOPS, PS Perdue WTP, PS 870-2, PS 1296-2, PS 1090-1, and PS 978-2, and correct any decreases in efficiency through the repair or replacement of appropriate pump components.

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

Thresholds 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 2009 WRMP Update could have a significant impact associated with energy conservation if it would result in the wasteful, inefficient, and unnecessary consumption of energy.

Impact Analysis

Project Construction

Construction of the OWD 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 proposed project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

Project Operation

Transportation Energy Demand. Traffic generated by the proposed project is discussed in Chapter 5.0, Other CEQA Considerations. As addressed in Chapter 5.0, operation of CIP projects proposed under the 2009 WRMP 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) and groundwater wells. 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.

Pump Stations

The 2009 WRMP Update proposes construction of seven new pump stations: two (PS Lower Otay Pump Station, and PS Perdue WTP) within Phase II and five (PS 870-2, PS 1296-2, PS 1090-1, PS 978-2, and the

Lower Otay Pump Station Expansion) within Phase III. CIP project PS 927-1 scheduled for Phase I is an upgrade of an existing pump station.

Using the average monthly electricity consumption of existing OWD Pump Stations shown in Table 4.4-1, the average monthly electricity consumption of the proposed CIP pump stations was estimated by graphing the electricity use of current pump stations and fitting the data points with a trendline to estimate consumption of new pump stations. The estimated average monthly electricity consumption of the proposed CIP pump stations is shown in Table 4.4-2. As described previously, other factors may influence the energy usage of each pump station, but the monthly estimate provides a general guide for the likely average monthly electricity consumption of the proposed CIP pump stations.

Table 4.4-2. Estimated Average Monthly Electricity Consumption of Proposed CIP Pump Stations

Proposed Pump Stations	Firm Capacity (gpm)	Proposed Average Monthly Electricity Consumption (kWh)
PS 1090-1	280	1,500
PS 978-2	1,500	22,400
PS Perdue WTP	3,500	56,600
PS Lower Otay Expansion (Ph II)	9,000	150,800
PS 1296-2	10,000	168,000
PS 870-2	11,000	184,000
PS Lower Otay (Ph I)	18,000	150,800

gpm = gallons per minute, kWh = kilowatt hours
Source: IFC Jones and Stokes, 2008

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.

Water Supply Projects

The 2009 WRMP Update also includes two groundwater well projects, the Rancho Del Rey Groundwater Well and the Otay Mesa Lot 7 Groundwater Well. These two projects would consume electricity during the operation of the groundwater well pumps, the water treatment equipment, and outdoor lighting at the well sites. At this time, the projected annual electricity usage of the two groundwater well projects is unknown. However, implementation of project design features listed above would ensure that the groundwater wells were energy-efficient and the proposed groundwater wells would not result in the wasteful, inefficient and unnecessary consumption of energy.

Mitigation/Performance Measures

Construction and operation of the proposed project 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 CIP projects within the 2009 WRMP Update would not result in the wasteful, inefficient, and unnecessary consumption of energy; therefore, no mitigation is required.

4.4.4 CUMULATIVE IMPACTS AND MITIGATION

Energy Cumulative Issue Summary

Would implementation of the 2009 WRMP Update have a cumulatively considerable contribution to the inefficient, wasteful, and unnecessary use of energy considering past, present, and probable future projects?

Cumulative Impact	Significant	WRMP Contribution
Energy Consumption	No	Not cumulatively considerable with implementation of measures Ene-PDF-1 through Ene-PDF-4.

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. Therefore, the contribution of the 2009 WRMP Update would not have a cumulatively considerable contribution to inefficient, wasteful or unnecessary use of energy.

4.4.5 CEQA CHECKLIST ITEMS DEEMED NOT SIGNIFICANT OR NOT APPLICABLE TO THE 2009 WRMP UPDATE

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

4.4.6 REFERENCES

California Energy Commission (CEC). 2003. Energy Action Plan. http://www.energy.ca.gov/energy_action_plan/2003-05-08_ACTION_PLAN.PDF (Accessed June 20).

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

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4.5 GEOLOGY, SOILS, AND PALEONTOLOGY

This section of the PEIR for the 2009 WRMP 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 2009 WRMP 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 2009 WRMP 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.

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.

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: San Diego Natural History Museum, 2008

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.

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 4.5-1 below 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.

In addition, Figure 4.5-2 shows the extent of the Lindavista and San Diego geologic formations within the south and west portions of the planning area. These formations contain sandy loam and loamy sand soils that are prone to lateral spreading, which can damage foundations, concrete slabs, flatwork and pavement through differential compression or settlement, tilting and cracking, similar to the shrink/swell effects of expansive soils described above.

Subsidence (Settlement)

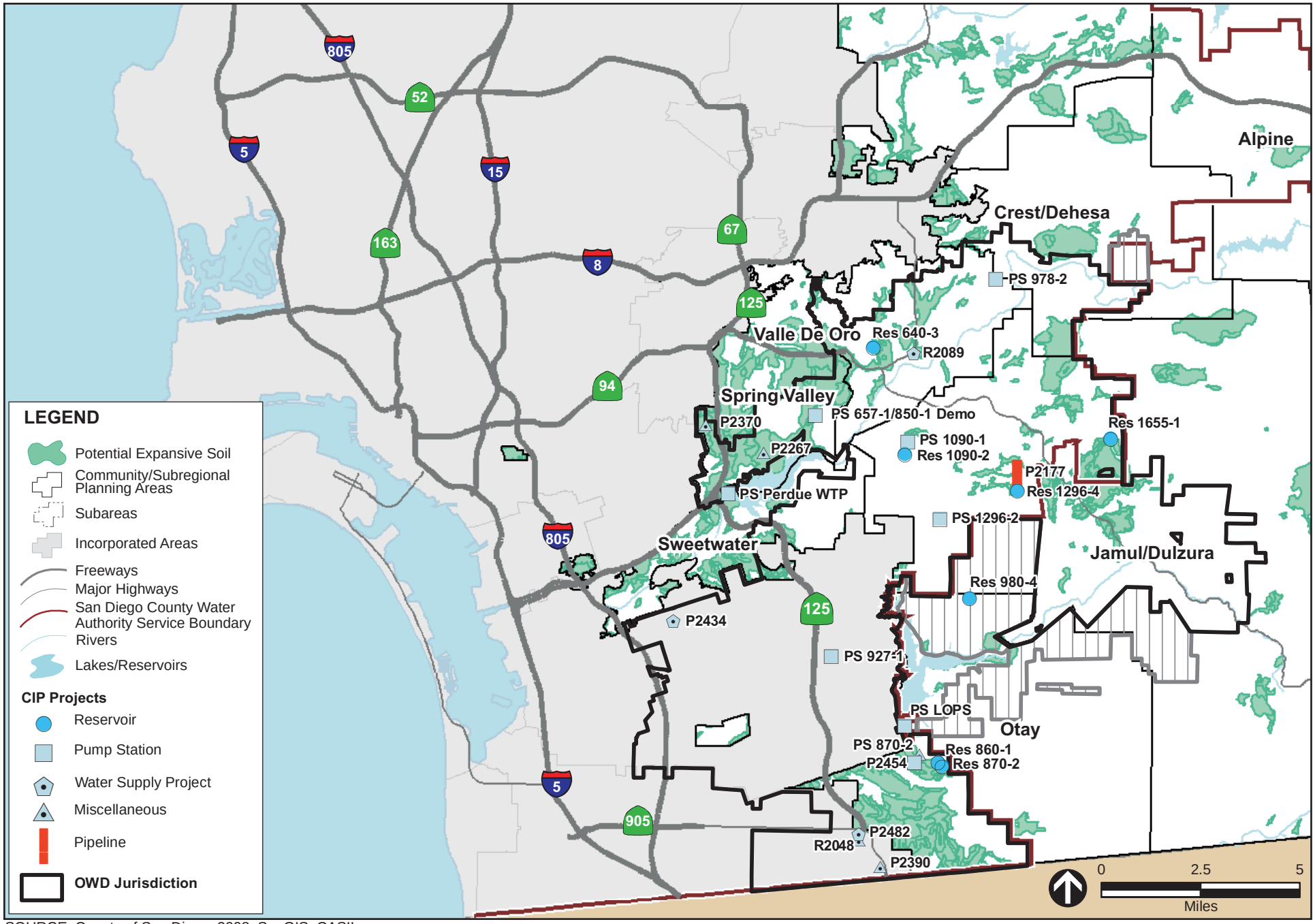
Subsidence is the downward settling of surface materials caused by natural or artificial removal of underlying support. Subsidence is a relatively slow process that may continue for several decades. Land subsidence could occur from one or more of several causes including withdrawal of subterranean fluids (oil, gas, or groundwater) or the application of water to moisture-deficient unconsolidated deposits. The OWD relies on groundwater wells as a water supply source within the planning area, the withdrawal of which is closely monitored to avoid subsidence effects.

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. Figure 4.5-2 shows the extent of the San Diego and Otay geologic formations within the planning area that contain these soil types. Areas of steep topography within these 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.

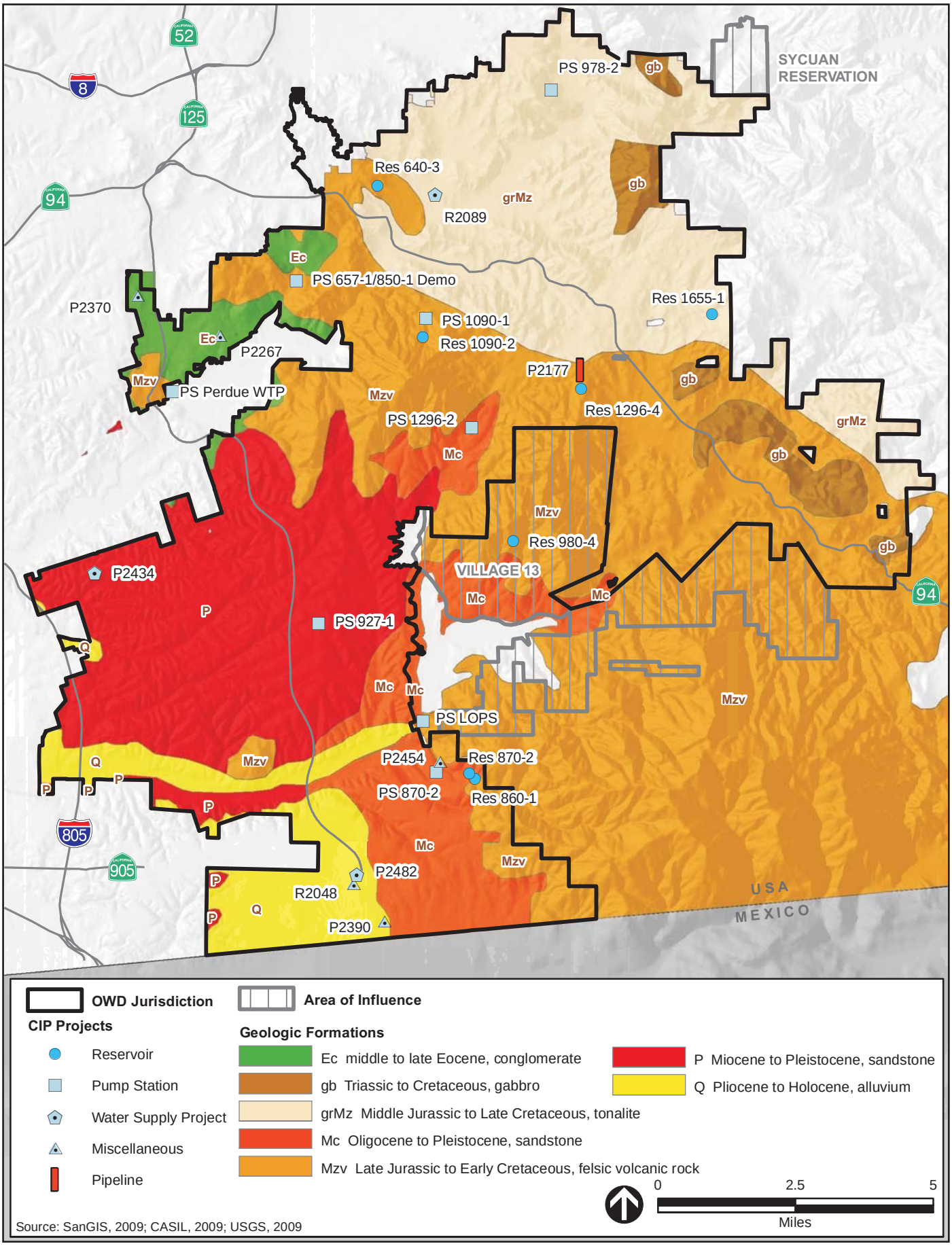
4.5.1.3 Seismic Hazards

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. Major active faults in San Diego County include the Elsinore, La Nacion, and Rose Canyon faults within the mainland region. Within the ocean or nearby islands, active faults include Coronado Bank, San Diego Trough, and San Clemente faults.

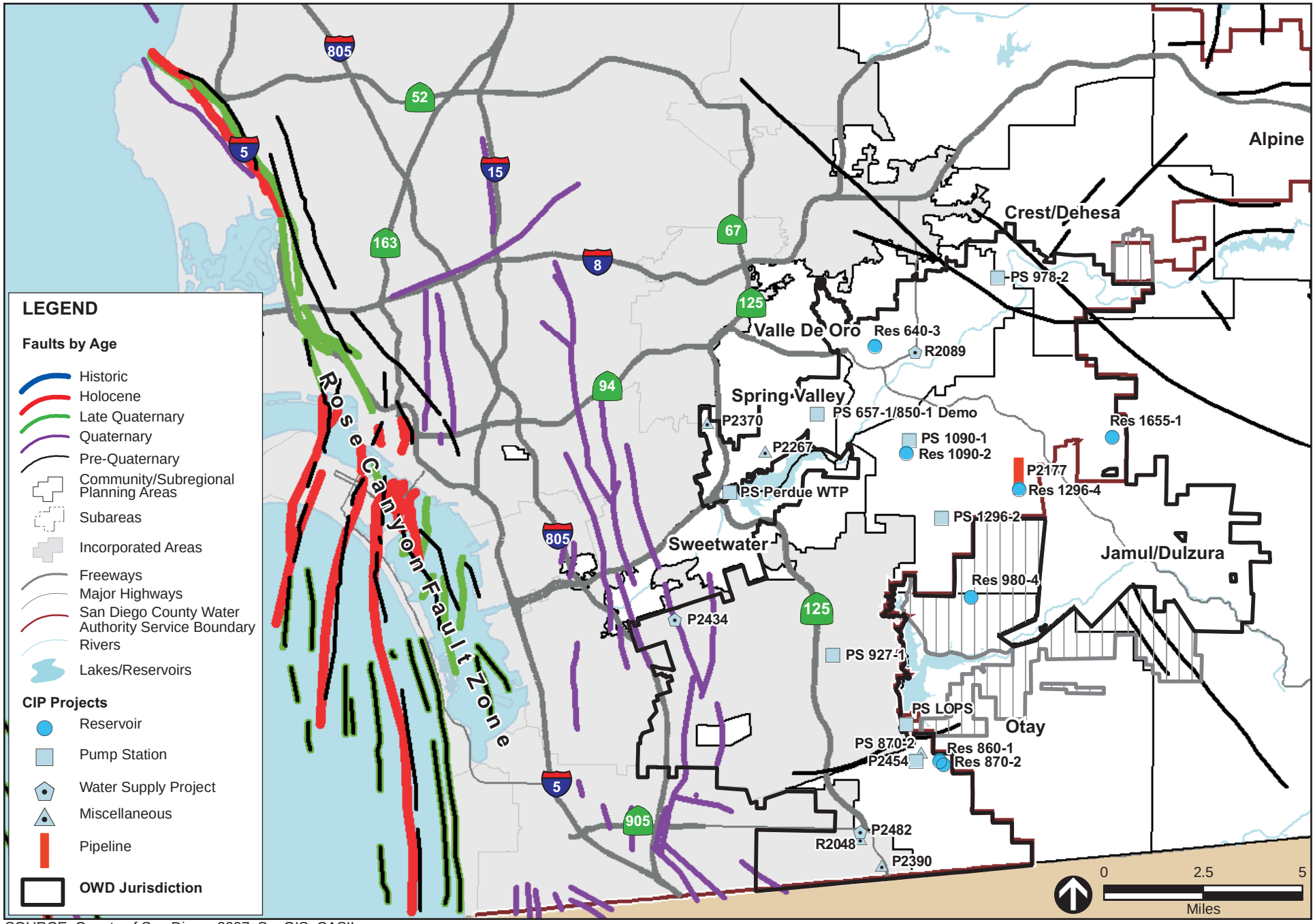


SOURCE: County of San Diego, 2008; SanGIS; CASIL

POTENTIAL EXPANSIVE SOIL AREAS **FIGURE 4.5-1**



GEOLOGIC FORMATIONS WITHIN THE PLANNING AREA **FIGURE 4.5-2**



SOURCE: County of San Diego, 2007; SanGIS; CASIL

MAPPED FAULTS **FIGURE 4.5-3**

Figure 4.5-3 shows three major fault zones within the planning area. The first fault zone consists of two Pre-Quaternary faults that transverse the North System of the OWD Service Area, and is surrounded by several other Pre-Quaternary faults. The second fault zone contains a series of Quaternary faults within the Rose Canyon Fault Zone that transverse the Central Area System in the western portion of the OWD Service Area. Lastly, there is a single Pre-Quaternary Fault on the border of the Central Area and Otay Mesa systems of the OWD Service Area, just south of the Lower Otay Reservoir.

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.

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.

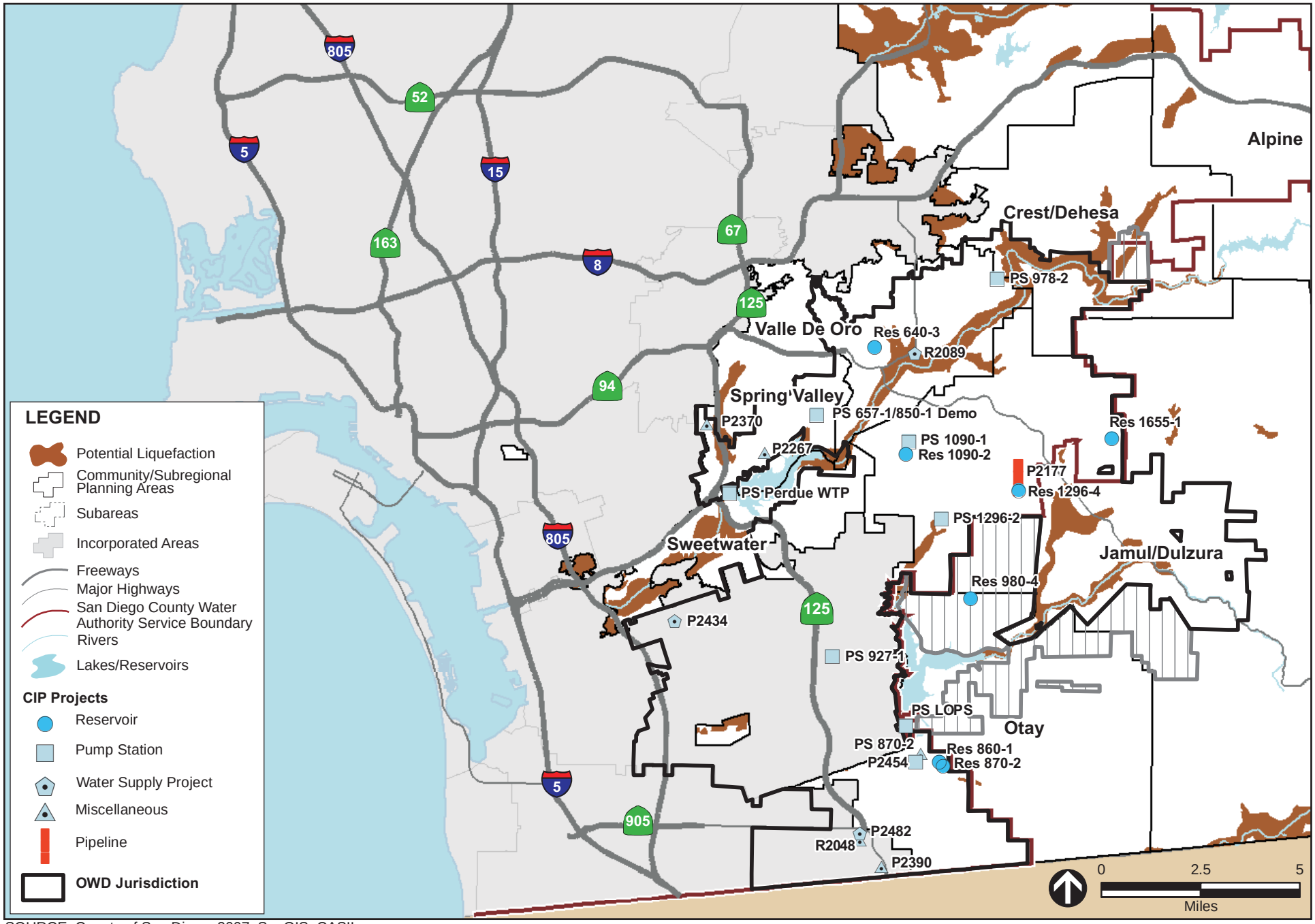
Liquefaction

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.



SOURCE: County of San Diego, 2007; SanGIS; CASIL

POTENTIAL LIQUEFACTION AREAS **FIGURE 4.5-4**

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.

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

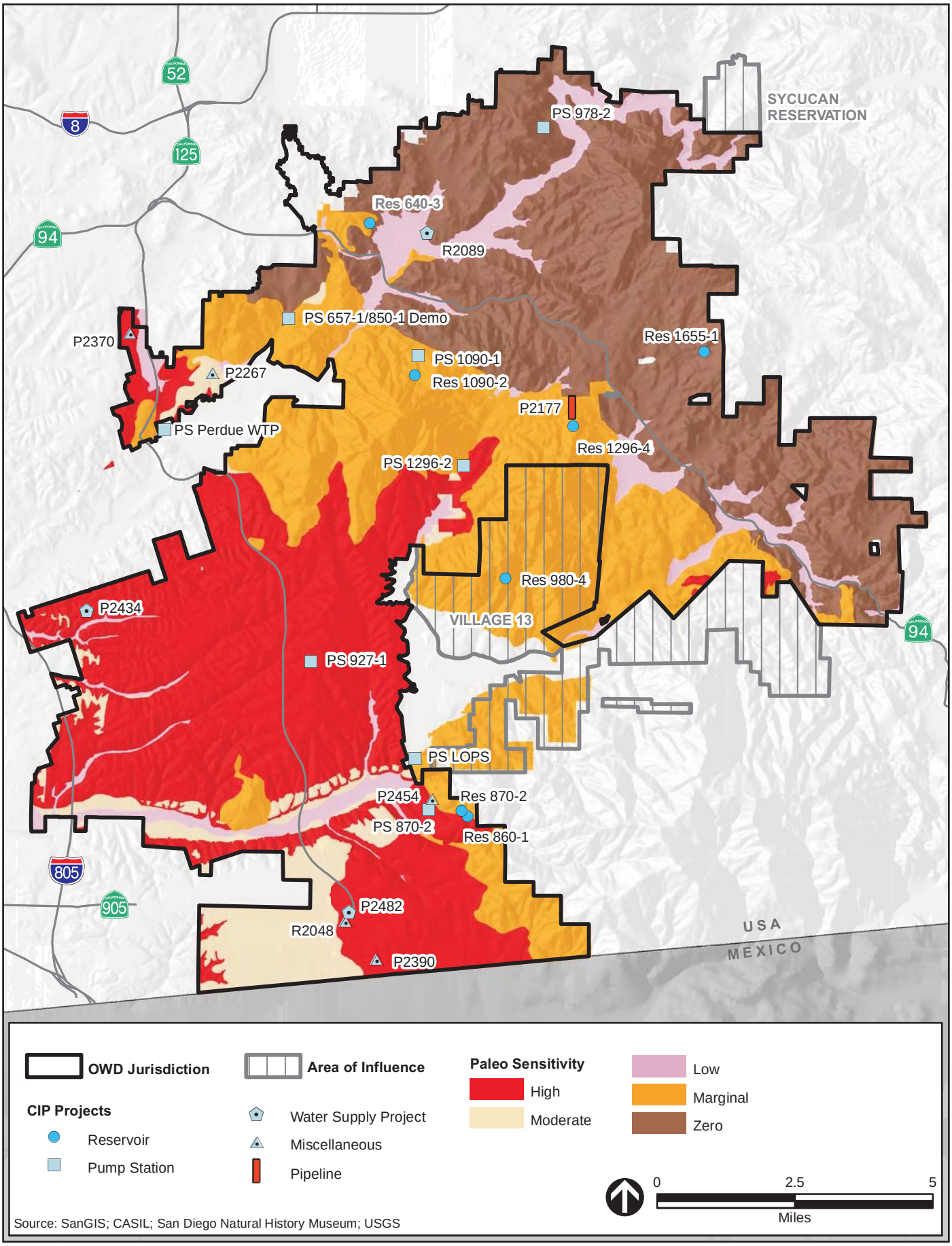
Marginal resource potential and marginal sensitivity are assigned to geologic formations that have a limited probability for producing fossils from certain sediments at localized outcrops.

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.



PALEONTOLOGICAL SENSITIVITY MAP **FIGURE 4.5-5**

4.5.2 REGULATORY FRAMEWORK

4.5.2.1 Federal Regulations

Federal Uniform Building Code (UBC)

The federal 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 Regulations

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 (Title 8 of the California Code of Regulations [CCR]) and in Section A33 of the CBC.

California Alquist-Priolo (AP) 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 AP Earthquake Fault Zoning Act is not applicable to the 2009 WRMP 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 (NPDES) 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 4.6, 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 NPDES program consists of characterizing receiving water quality, identifying harmful constituents, targeting potential sources of pollutants, and implementing a comprehensive stormwater 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 Regulations

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

Geology, Soils, and Paleontology Issue 1 Summary

Would implementation of the 2009 WRMP Update 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?

Impact: 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.	**Mitigation**: No mitigation is required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation**: Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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, the OWD will implement the relevant requirements of the 2006 UBC and 2007 CBC, as updated or amended, and CDMG's Special Publications 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:

- Over-excavate unsuitable materials and replace them with engineered fill.
- 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).
- 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).
- Lower the groundwater table to below the level of liquefiable soils.
- Perform in-situ densification of soils or other alterations to the ground characteristics.

- 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 2009 WRMP 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, one CIP project, P2434 (Rancho Del Rey Groundwater Well), 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 4.5.1.4 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 2009 WRMP 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 2006 UBC and 2007 CBC, as updated or amended, and CDMG's Special Publications 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 a proposed 16-inch diameter pipeline near the northeast boundary of the planning area (P2414) and to future pipelines associated with the North District Recycled Water Concept project (R2089). 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 San Diego and Otay 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 2009 WRMP Update: Res 870-2, Res 860-1, PS 1296-2, PS 870-2, and P2454. Geo-SCP-1 would require the completion of a geotechnical study prior to construction of these CIP 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

Geology, Soils, and Paleontology Issue 2 Summary

Would implementation of the 2009 WRMP Update result in substantial soil erosion or the loss of topsoil?

Impact: 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.	**Mitigation:** No mitigation is required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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 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:

- Minimize disturbance to existing vegetation and slopes.
- Construct drainage control devices (e.g., storm drains, brow ditches, subdrains, etc.) to direct surface water runoff away from slopes and other graded areas.
- 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 Best Management Practices (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 the OWD Standard Specifications for Slope Protection and Erosion Control (Section 02202).

- 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).
- 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.
- 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.
- Divert runoff from uphill areas around disturbed areas of the construction site.
- Protect storm drain inlets on-site or downstream of the construction site to eliminate entry of sediment.

- 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.
- Train personnel responsible for BMP installation and maintenance.
- Implement solid waste management efforts such as proper containment and disposal of construction debris.
- Install permanent landscaping (or native vegetation in areas adjacent to natural habitats) and irrigation as soon as feasible after final grading or construction.
- Implement appropriate monitoring and maintenance efforts (e.g., prior to and after storm events) to ensure proper BMP function and efficiency.
- Implement sampling/analysis, monitoring/reporting and post-construction management programs per NPDES requirements.
- 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 2009 WRMP 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 2009 WRMP Update would expose soils that could be subject to erosion during rain events. In compliance with 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 2009 WRMP 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

Geology, Soils, and Paleontology Issue 3 Summary

Would any of the CIP projects under the 2009 WRMP Update 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?

Impact: 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).	**Mitigation**: No mitigation is required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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:

- Perform site-specific settlement analyses in areas deemed appropriate by the geotechnical engineer and evaluate the potential for groundwater-related subsidence.
- Over-excavate unsuitable materials and replace them with engineered fill.
- 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.
- 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.

- To minimize or avoid shrinking/swelling of on-site expansive soils, over-excavate for deeper fills (at least five feet below finished grade).
- 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 2009 WRMP 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 2009 WRMP Update: Res 870-2, Res 860-1, PS 1296-2, PS 870-2, and P2454. However, implementation of Geo-SCP-1 would reduce these impacts to a less than significant level.

Lateral Spreading

The sites of PS 927-1 and P2434 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 PS 927-1 and P2434 associated with lateral spreading to a less than significant level.

Subsidence

Construction of CIP projects under the 2009 WRMP 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 2009 WRMP Update would not result in significant impacts associated with subsidence. Long-term operations associated with the Rancho Del Rey

and Otay Mesa Lot 7 groundwater well development projects (P2434 and P2484) would involve groundwater extraction, which can result in local subsidence. Both groundwater wells are expected to each extract between 300 and 500 acre-feet per year (AFY). 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 a proposed 16-inch diameter pipeline near the northeast boundary of the planning area (P2414) and to future pipelines associated with the North District Recycled Water Concept project (R2089). 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

Geology, Soils, and Paleontology Issue 4 Summary

Would any of the CIP projects under the 2009 WRMP Update be located on expansive soils, creating substantial risks to life or property?

Impact: Implementation of recommendations provided in site-specific geotechnical investigations (Geo-SCP-1 and Geo-SCP-4) would reduce impacts associated with expansive soils.	**Mitigation:** No mitigation is required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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 2009 WRMP 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 4.5-1). 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

Geology, Soils, and Paleontology Issue 5 Summary

Would implementation of the 2009 WRMP Update directly or indirectly destroy a unique paleontological resource or site?

Impact: Implementation of the 2009 WRMP Update could impact potential paleontological resources within the planning area.

Mitigation: Implementation of a paleontological resources monitoring and data recovery program by a qualified paleontologist (Geo-5A through Geo-5D).

Significance Before Mitigation: Significant.

Significance After Mitigation: Less than Significant.

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 2009 WRMP 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 and pump stations, which would occur within the "high" and

"marginal" paleontological sensitivity areas (Figure 4.5-5), could have significant impacts to potential paleontological resources: Res 640-3, Res 1090-2, Res 1296-4, Res 980-4, Res 870-2, Res 860-1, PS 1090-1, PS 1296-2, PS 927-1, PS LOPS, PS 870-2, PS Perdue WTP, P2434, P2482, P2370, R2089, P2454, R2048 and P2390.

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 2009 WRMP 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 the following CIP projects, the OWD shall retain a qualified paleontologist to monitor all ground-disturbing activities: Res 640-3, Res 1090-2, Res 1296-4, Res 980-4, Res 870-2, Res 860-1, PS 1090-1, PS 1296-2, PS 927-1, PS LOPS, PS 870-2, PS Perdue WTP, P2434, P2482, P2370, R2089, P2454, R2048 and P2390. 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 CUMULATIVE IMPACTS AND MITIGATION

Geology, Soils and Paleontology Cumulative Issue Summary

Would implementation of the 2009 WRMP Update have a cumulatively considerable contribution to cumulative geology/soils impacts considering past, present, and probable future projects?

Cumulative Impact	Significant	WRMP Contribution
Localized soil erosion or loss of topsoil in affected watersheds due to development.	Yes	Not cumulatively considerable with implementation of Geo-PDF-1, Geo-SCP-2 and Geo-SCP-3.
Regional loss of paleontological resources.	Yes	Not cumulatively considerable with implementation of mitigation/performance measures Geo-5A through Geo-5D.

As indicated in Table 4.0-1 of this PEIR, impacts relative to seismic hazards and other geologic/soil conditions (i.e., 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.

4.5.4.1 Soil Erosion

As indicated in Table 4.0-1 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 4.6-2 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 Section 4.5.3.2 above, all CIP construction projects under the 2009 WRMP 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.

4.5.4.2 Paleontological Resources

As indicated in Table 4.0-1 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 (Note: this regional cumulative impact area is shown on Figure 4.5-5). 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 above, 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.

4.5.5 CEQA CHECKLIST ITEMS DEEMED NOT SIGNIFICANT OR NOT APPLICABLE TO THE 2009 WRMP 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 2009 WRMP Update would not involve the use of septic tanks or other alternative wastewater disposal systems; therefore, no further evaluation is necessary.

4.5.6 REFERENCES

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

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

Recon. 1996. *Final Master Environmental Impact Report for the Otay Water District Water Resources Master Plan.* May 1996.

San Diego Natural History Museum. 2008. *Geologic Time Scale.* Accessed from www.sdnhm.org/exhibits/mystery/fg_timeline.html on January 5, 2009

4.6 HYDROLOGY AND WATER QUALITY

This section of the PEIR for the 2009 WRMP 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 2009 WRMP 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 Hydrology

The majority of the planning area is located within the following three watersheds (also known as hydrologic units): Tijuana, Otay, and Sweetwater (Figure 4.6-1). 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 4.6-1). 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 (HAs): 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.

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 4.6-1). 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. It also contains the Coronado, Otay, and Dulzura HAs. 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 4.6-1). 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 HAs. 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 Federal Emergency Management Agency (FEMA) data from 1999, portions of the planning area are within the 100-year floodplain or floodway (Figure 4.6-2).

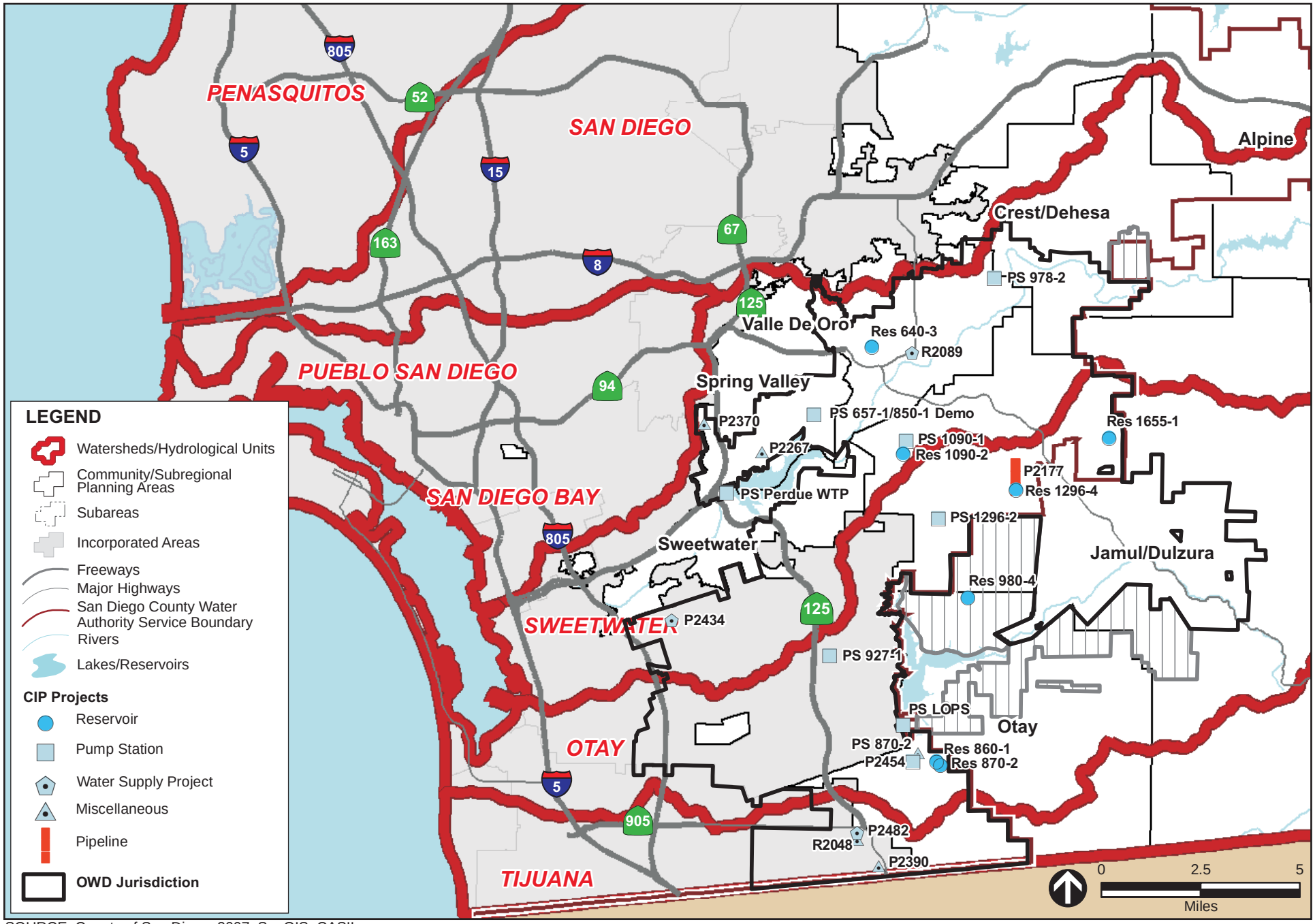
Seismic activity could potentially generate secondary flooding due to tsunamis or seiches. Tsunamis are open sea waves generated by submarine earthquakes. Such earthquakes cause vertical motions of the earth's crust under the sea resulting in displacement of the overlying water mass and long-period oceanic 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 3-3 of this PEIR); however, there has never been a record of any seiche events occurring at these reservoirs.

4.6.1.2 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 (MUN), agricultural supply (AGR), industrial service supply (IND), industrial process supply (PROC), contact water recreation (REC1), non-contact water recreation (REC2), preservation of biological habitats of special significance (BIOL), warm freshwater habitat (WARM), cold freshwater habitat (COLD), wildlife habitat (WILD), rare, threatened, or endangered habitat (RARE), and spawning, reproduction, and/or early development (SPWN). The Tijuana Hydrologic Unit also includes the following beneficial uses: freshwater replenishment (FRSH) and hydropower generation (POW). Table 4.6-1 provides definitions for each of these beneficial uses.

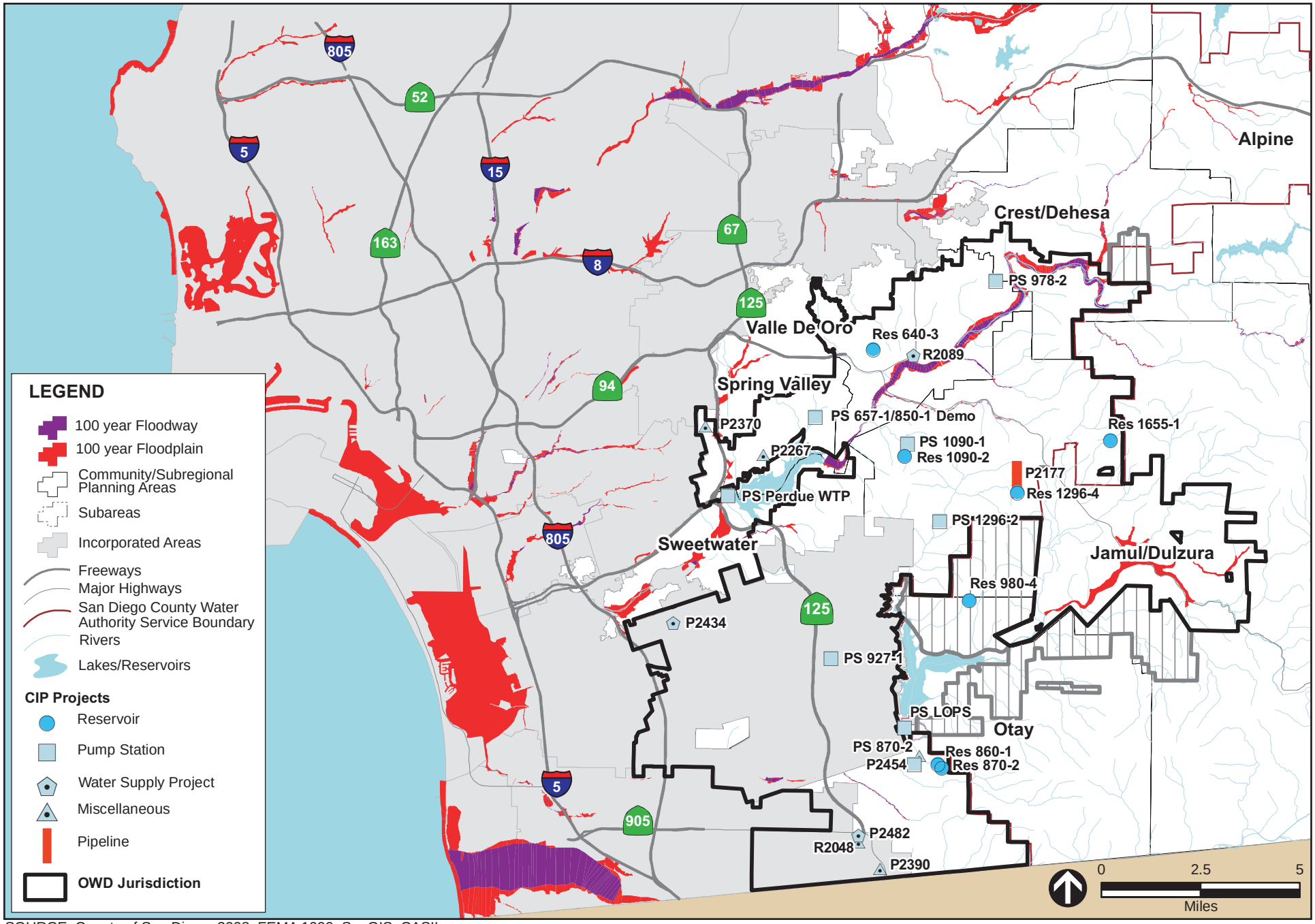
4.6.1.3 Groundwater

The planning area includes the Lower and Middle Sweetwater groundwater basins (collectively known as the Sweetwater Basins), and the Otay Valley groundwater basin (Figure 4.6-3). As shown in Figure 4.6-3, 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.



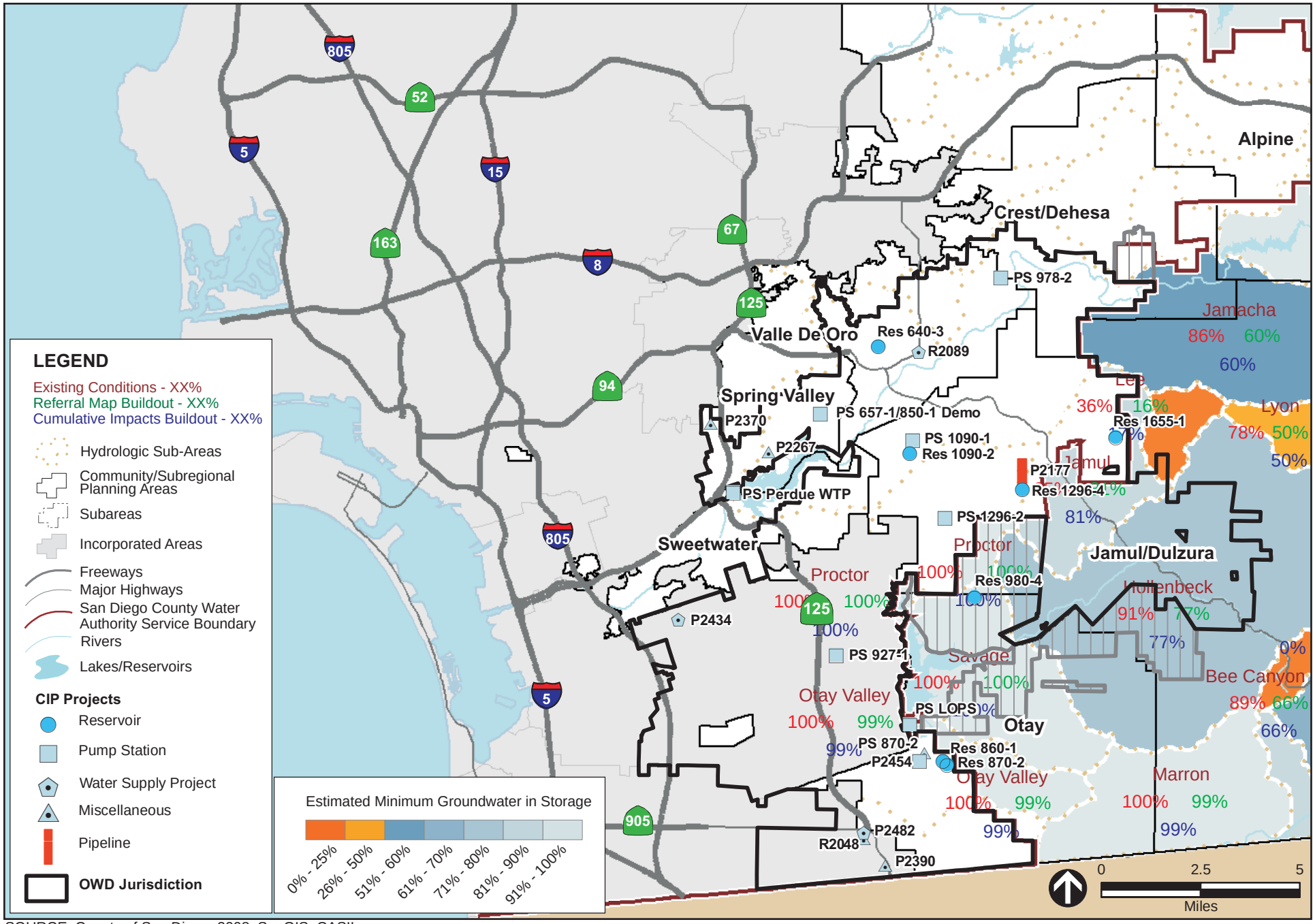
SOURCE: County of San Diego, 2007; SanGIS; CASIL

COUNTY HYDROLOGIC UNITS **FIGURE 4.6-1**



SOURCE: County of San Diego, 2008; FEMA 1999; SanGIS; CASIL

COUNTY FLOODPLAINS AND FLOODWAYS **FIGURE 4.6-2**



SOURCE: County of San Diego, 2008; SanGIS; CASIL

COUNTY GROUNDWATER BASINS **FIGURE 4.6-3**

Table 4.6-1. 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 (AF). 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 AF per year (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 AF, while the Middle Sweetwater Basin has an estimated total groundwater storage capacity of 28,900 AF. 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, the Metropolitan Water District of Southern California (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.

4.6.2 REGULATORY FRAMEWORK

4.6.2.1 Federal

Clean Water Act (CWA)

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 U.S. Environmental Protection Agency (EPA) has delegated responsibility for implementation of portions of the federal CWA in California to the State Water Resources Control Board (SWRCB) and to the regional water quality control boards (RWQCBs). This includes water quality control planning and programs such as the National Pollutant Discharge Elimination System (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.

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.

4.6.2.2 State

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.

NPDES 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.

4.6.2.3 Local

San Diego Basin Plan

The San Diego Basin Plan, most recently amended in 2007, sets forth water quality objectives for constituents that could potentially cause an adverse effect or impact on the beneficial uses of water. Specifically, the Basin Plan 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's 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 Basin Plan. The Basin Plan incorporates by reference all applicable SWRCB and RWQCB plans and policies.

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 (HMBP)

OWD routinely prepares and implements a HMBP at each existing facility that involves the transportation, storage, use, and disposal of hazardous materials.

4.6.3 IMPACTS AND MITIGATION

4.6.3.1 Issue 1 – Water Quality

Hydrology and Water Quality Issue 1 Summary

Would the 2009 WRMP Update violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality?

Impact: 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 2009 WRMP Update.

Mitigation: No mitigation is required.

Significance Before Mitigation: Less than significant.

Significance After Mitigation: Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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.

Hyd-SCP-1 In accordance with the Water Agencies' Standards (WAS), 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 Best Management Practices (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 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 DEH allowing for the use of specified hazardous substances during the CIP post-construction operation of these sites (refer to Section 4.10, 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.

- 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.
- 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.

Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2009 WRMP 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 2009 WRMP 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 County 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 2009 WRMP 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 2009 WRMP Update to a less than significant level; therefore, no mitigation is required.

4.6.3.2 Issue 2 – Groundwater Quality, Supplies and Recharge

Hydrology and Water Quality Issue 2 Summary

Would the 2009 WRMP Update 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?

Impact: 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 Res 640-3, PS 978-2, PS Perdue WTP, P2434, Res 860-1, Res-870-2 and PS 870-2. CIP projects P2434 and P2484 would not result in a net deficit in aquifer volume or a lowering of the local groundwater table. In addition, there would be no impacts to groundwater supplies and recharge from implementation of the remaining CIP projects under the 2009 WRMP Update.	**Mitigation:** No mitigation is required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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 4.6.3.1, Hydrology, Issue 1, of this PEIR) to reduce potential impacts to groundwater quality.

Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2009 WRMP 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 4.6-3, 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: Res 640-3, PS 978-2, PS Perdue WTP, and P2434 (Sweetwater Basins); Res 860-1, Res-870-2 and PS 870-2 (Otay Valley Basin). 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 4.6.3.1 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 Res 640-3, PS 978-2, PS Perdue WTP, P2434, Res 860-1, Res-870-2 and PS 870-2 to a less than significant level.

Operational Impacts. Following construction of Res 640-3, PS 978-2, PS Perdue WTP, P2434, Res 860-1, Res-870-2 and PS 870-2, 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 4.6.3.1 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 Rancho Del Rey and Otay Mesa Lot 7 groundwater well development projects (P2434 and P2484) would involve groundwater extraction. These CIP projects would involve the addition of water treatment facilities to the existing wells which would avoid impacts to groundwater quality. Therefore, 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 Res 640-3, PS 978-2, Res 860-1, PS Perdue WTP, P2434, Res-870-2 and PS 870-2 to a less than significant level.

Groundwater Supplies and Recharge

The Rancho Del Rey and Otay Mesa Lot 7 groundwater well development projects (P2434 and P2484) would involve groundwater extraction. Both groundwater wells currently extract between 300 and 500 AFY. The amount of groundwater extraction associated with P2434 and P2484 would not increase over existing conditions. Therefore, CIP projects P2434 and P2484 would not result in a net deficit in aquifer volume or a lowering of the local groundwater table.

As shown in Figure 4.6-3, 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 2009 WRMP 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 Res 640-3, PS 978-2, Res 860-1, PS Perdue WTP, P2434, P2484, Res-870-2 and PS 870-2 to a less than significant level. In addition, there would be no impacts to groundwater supplies and recharge from implementation of the 2009 WRMP Update; therefore, no mitigation is required.

4.6.3.3 Issue 3 – Alteration of Drainage Patterns

Hydrology and Water Quality Issue 3 Summary

Would the 2009 WRMP Update 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: 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 2009 WRMP Update.

Mitigation: No mitigation is required.

Significance Before Mitigation: Less than significant.

Significance After Mitigation: Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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 2006 UBC and 2007 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.

Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, the 2009 WRMP 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 2009 WRMP 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 2009 WRMP 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 2009 WRMP Update to a less than significant level; therefore, no mitigation is required.

4.6.3.4 Issue 4 – Mudflows

Hydrology and Water Quality Issue 4 Summary

Would any of the CIP projects under the 2009 WRMP Update have the potential to be inundated by mudflow?

Impact: Implementation of recommendations provided in site-specific geotechnical investigations (Geo-SCP-1), would reduce potential impacts associated with mudflows.	**Mitigation:** No mitigation is required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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.

Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, the 2009 WRMP 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, within Section 4.5 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 2009 WRMP Update: Res 870-2, Res 860-1, PS 1296-2, PS 870-2, and P2454. 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.

4.6.4 CUMULATIVE IMPACTS AND MITIGATION

Hydrology and Water Quality Cumulative Issue Summary

Would implementation of the 2009 WRMP Update have a cumulatively considerable contribution to a cumulative hydrology and water quality impact considering past, present, and probable future projects?

Cumulative Impact	Significant	WRMP Contribution
Regional increase in pollutant sources that could adversely affect water quality standards.	Yes	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.	Yes	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.	Yes	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.

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.

4.6.4.1 Water Quality

As indicated in Table 4-1 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 (Figure 4.6-1). 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 4.6.3.1 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, 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 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, 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.

4.6.4.2 Groundwater Quality, Supplies and Recharge

As indicated in Table 4-1 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 4.6-3). As documented in the *Groundwater Assessment Study* (Metropolitan Water District of Southern California 2007), groundwater quality continues to be a problem in the Sweetwater Basins, although the quality of groundwater is unknown in the Otay Valley Basin. Therefore, the baseline cumulative impact to these basins (i.e., the local cumulative impact area) due to groundwater quality is significant.

As stated in Section 4.6.3.2 above, Res 640-3, PS 978-2, PS Perdue WTP, and P2434 would be adjacent to the Sweetwater Basins, and Res 860-1, Res-870-2 and PS 870-2 would be adjacent to the Otay Valley Basin. Construction, development and operation of these CIP projects, combined with the cumulative projects identified in Chapter 4.0 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 Res 640-3, PS 978-2, PS Perdue WTP, P2434, Res 860-1, Res-870-2 and PS 870-2. Therefore, implementation of the 2009 WRMP 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* (Metropolitan Water District of Southern California 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 2009 WRMP Update. Therefore, implementation of the 2009 WRMP Update would not result in a cumulatively considerable contribution to groundwater supplies/recharge within the local cumulative impact area.

4.6.4.3 Alteration of Drainage Patterns

As indicated in Table 4-1 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 (Figure 4.6-1) and the San Diego Formation, Sweetwater, and Otay Valley groundwater basins (Figure 4.6-3). 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 4.6.5.1 above, 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 2009 WRMP 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.

4.6.5 CEQA CHECKLIST ITEMS DEEMED NOT SIGNIFICANT OR NOT APPLICABLE TO THE 2009 WRMP UPDATE

Would the 2009 WRMP Update place structures within a 100-year flood hazard area which would impede or redirect flood flows?

As shown in Figure 4.6-2, none of the CIP reservoirs, pump stations, or above-ground facilities for groundwater production wells under the 2009 WRMP Update would be constructed within a FEMA-designated 100-year floodplain or floodway. Therefore, implementation of the 2009 WRMP Update would not result in the placement of an above-ground CIP structure within a 100-year flood hazard area that would otherwise impede or redirect flood flows.

Would any CIP facilities associated with the 2009 WRMP Update have the potential to be inundated by tsunami or seiche?

Tsunamis. As shown in Figure 4.6-2, the CIP reservoirs and pump stations under the 2009 WRMP 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 2009 WRMP 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 2009 WRMP Update would be at a significant risk for inundation by a seiche.

Would the 2009 WRMP 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 4.6-2, none of the CIP reservoirs, pump stations, and above-ground facilities for groundwater production wells under the 2009 WRMP 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 2009 WRMP Update would be at a significant risk for inundation as a result of the failure of a levee or dam.

4.6.6 REFERENCES

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

Mazor, Raphael D. and Ken Schiff. 2007. *Surface Water Ambient Monitoring Program Report on the Otay Hydrologic Unit.* July 2007.

Mazor, Raphael D. and Ken Schiff. 2008(a). *Surface Water Ambient Monitoring Program Report on the Sweetwater Hydrologic Unit.* January 2008.

Mazor, Raphael D. and Ken Schiff. 2008(b). *Surface Water Ambient Monitoring Program Report on the Tijuana Hydrologic Unit.* January 2008.

Metropolitan Water District of Southern California. 2007. *Groundwater Assessment Study.* Accessed from www.mwdh2o.com/mwdh2o/pages/yourwater/supply/groundwater/gwas.html. September 2007.

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

Recon. 1996. *Final Master Environmental Impact Report for the Otay Water District Water Resources Master Plan.* May 1996.

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4.7 LANDFORM ALTERATION AND VISUAL AESTHETICS

This section of the PEIR for the 2009 WRMP Update describes existing conditions within the WRMP planning area ("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 2009 WRMP 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.

4.7.1 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 above mean sea level (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 State Route 94 (SR-94) in the north, Interstate 805 (I-805) in the southwest, and SR-125 in the east. 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 Regulatory, La Presa, and Hillsdale systems in the North District; and the Central and Otay Mesa systems in the South District), as shown in Figure 3-2 of this PEIR, is provided below.

4.7.1.1 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. Elevations within this area range from 289 feet AMSL to 2,605 feet AMSL. This service area contains several 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 is a valley located within the community of Steele Canyon, and is an important visual resource to the community, along with Steele Canyon Golf Course. The Jamul Mountains traverse the south portion of the planning area, and the San Miguel Mountains traverse the west portion.

According to regional vegetation maps maintained by SANDAG, the service area contains the following vegetation types, listed in order of abundance: Diegan Coastal Sage Scrub, Chaparral, Riparian Forest, Non-native Grassland, Oak Woodlands, Wetlands, and Agriculture.

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 majority of this area (approximately 60 percent) is urban; the remaining area contains the following vegetation types, listed in order of abundance, according to SANDAG regional mapping: Agriculture, Diegan Coastal Sage Scrub, Non-native Grassland, Chaparral, Native Grassland, and Wetlands.

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.

Approximately 50 percent of this area is urban; the remaining portions consist of Diegan Coastal Sage Scrub, Chaparral, Riparian Forest, Agriculture, Oak Woodland, and Wetlands (according to SANDAG regional mapping).

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.

4.7.1.2 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~~ Poggi Canyon and Rock Mountain are ~~no~~ scenic topographic features within this service area. 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 City of Chula Vista General Plan. 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, listed in order of abundance, according to SANDAG regional mapping: Diegan Coastal Sage Scrub, Chaparral, Non-native Grassland, Agriculture, and Wetlands.

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.

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.

The majority of this area (approximately 60 percent) is agricultural; the remaining portions consist of urban areas and the following vegetation types, listed in order of abundance, according to SANDAG regional mapping: Diegan Coastal Sage Scrub, Chaparral, and Non-native Grassland.

Developed areas within the Otay Mesa System include portions of the City of San Diego and the Otay Subregion (County of San Diego). The City of 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.

4.7.2 REGULATORY FRAMEWORK

4.7.2.1 Federal and State Regulations

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.

4.7.2.2 Local Policies and Ordinances

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.

The planning area spans three different land use jurisdictions: the County of San Diego, the City of San Diego, and the 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

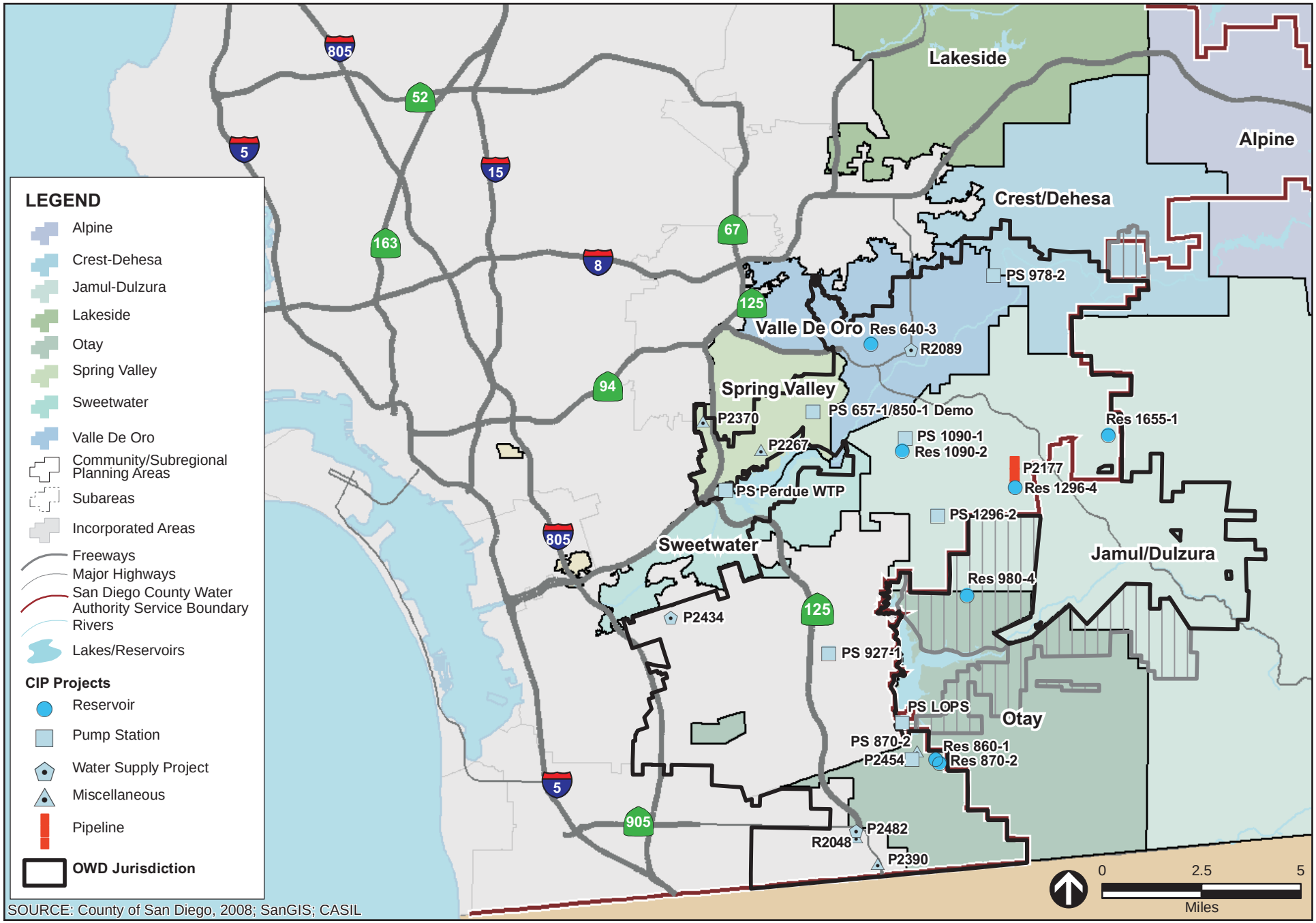
As shown in Figure 4.7-1, five of the County of San Diego's Community Plan Areas (CPAs) partially fall within the WRMP planning area: Crest/Dehesa CPA, Jamul/Dulzura CPA, Otay Subregion CPA, Sweetwater CPA, and Spring Valley CPA. Within the Crest/Dehesa CPA, McGinty Mountain is identified as an important scenic resource. The Jamul/Dulzura CPA identifies the San Miguel and Jamul mountains as valuable scenic resources. The Otay Subregion CPA identifies Otay Mountain and the Lower Otay Reservoir as visually significant, and the Sweetwater CPA lists Mother Miguel Mountain as a scenic viewshed. No scenic resources are identified within the Spring Valley CPA by the County General Plan.

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 ~~five~~ scenic resources that occur within the planning area: ~~vistas as valuable: Upper and Lower Otay reservoir; Sweetwater Reservoir; and the~~ San Miguel and Mother Miguel mountains; Sweetwater Reservoir; Upper and Lower Otay reservoirs; Poggi Canyon; Rock Mountain; and Otay River Valley.



San Diego County Community Planning Areas within the OWD Service Area

Figure 4.7-1

4.7.3 IMPACTS AND MITIGATION

4.7.3.1 Issue 1 – Scenic Vistas

Aesthetics Issue 1 Summary

Would any of the CIP projects under the 2009 WRMP Update have a substantial adverse effect on a scenic vista?

Impact: Implementation of Aes-~~SCP~~PDF-1 would reduce the visual impacts of Res 980-4, Res 860-1, Res 870-2, LOPS, PS 978-2, PS 870-2, and PS Perdue WTP on scenic vistas~~ within the OWD jurisdiction to a less than significant level~~.

Mitigation: No mitigation is required.

Significance Before Mitigation: ~~Potentially~~ Less than significant.

Significance After Mitigation: Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP Update would include, but would not be limited to, the following PDF to reduce potential impacts to scenic vistas:

Aes-~~SCP~~PDF-1 In accordance with WAS and standard operating procedures, the following design, landscaping and irrigation measures will be implemented ~~upon completion of construction of~~ 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).
- Reservoirs, pump station buildings, and groundwater wells will use low-reflective paint and glass.
- For portions of pipeline projects, R2089, P2267, P2454, P2390, and P2048 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.
- 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.
- 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 2009 WRMP 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 general plans of the County of San Diego, City of San Diego, and City of Chula Vista have identified "highly valued landscapes," which are defined as scenic topographic and aquatic features for purposes of this analysis, that occur within or adjacent to the planning area. In the following discussion, under each of the "highly valued landscapes," as identified in Section 4.7.1 above, an evaluation of the relevant above-ground CIP projects that have the potential to impact a scenic vista is provided. The CIP pipeline projects do not warrant inclusion in this analysis as they are underground. In addition to the CIP pipeline projects, R2089, P2267, P2454, P2390, and P2048 would not feature above-ground structures and therefore are not included in this analysis.

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 4.7-2).

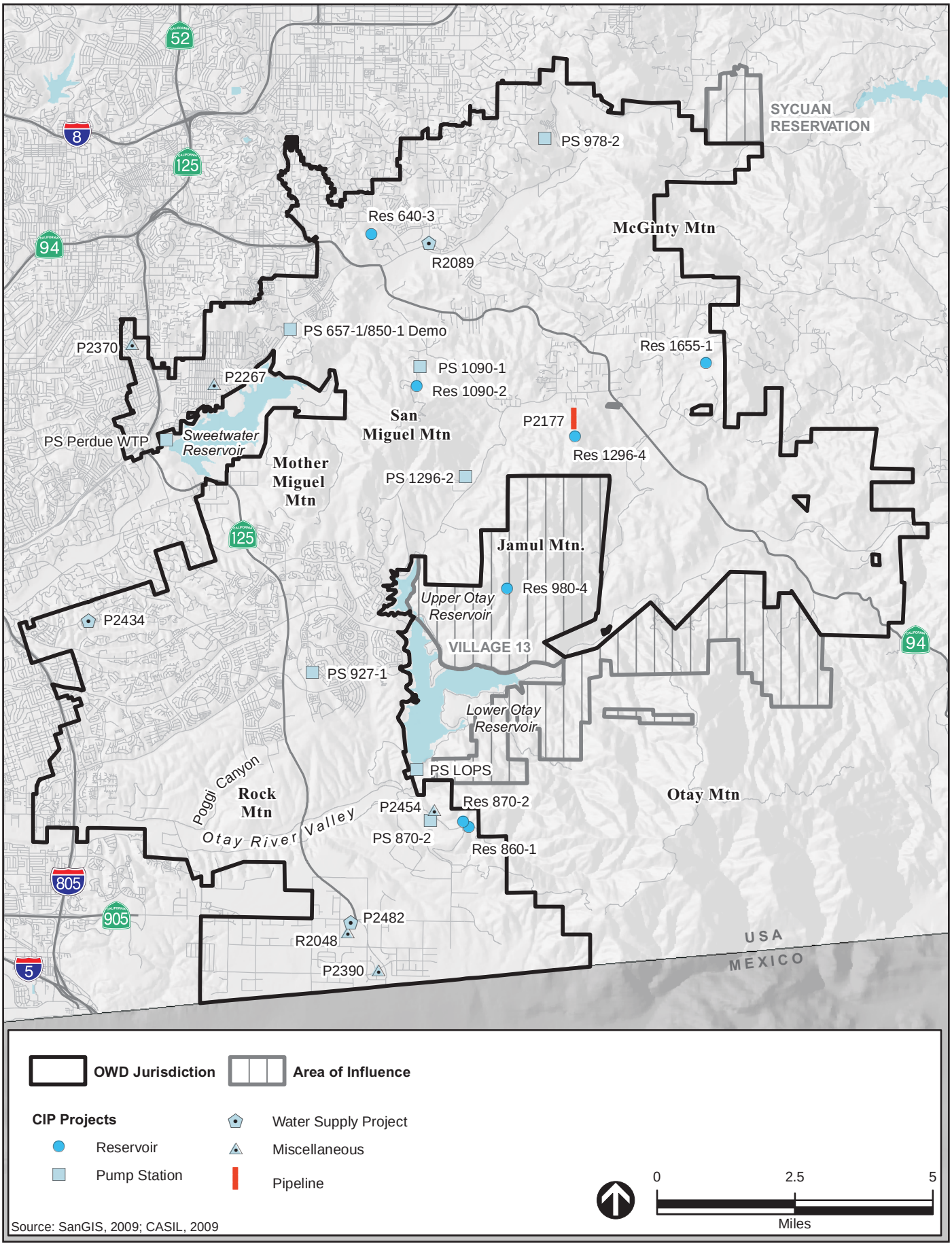
Res 1090-2 would be located adjacent to the existing 1090-1 Reservoir, on an undeveloped foothill at the northern base of San Miguel Mountain. Res 1090-2 would be within the viewshed of San Miguel Mountain; however, since it would be placed immediately adjacent to an existing 500-gallon reservoir. Therefore, the construction of the new reservoir would not substantially alter the existing viewshed, and with implementation of Aes-~~SCP~~PDF-1, the impact to the scenic vista would be less than significant.

CIP Project PS 1090-1 would replace the existing 1090-1 Pump Station, which is located adjacent to the existing 1090-1 Reservoir described in the preceding paragraph. The new PS 1090-1 would appear similar to the existing pump station, and therefore would not result in any additional impacts to views of the San Miguel and Mother Miguel mountains. Therefore, PS 1090-1 would not impact this scenic vista.

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 PS 1296-2 would be situated approximately 1.5 miles southeast of San Miguel Mountain and approximately three miles east of Mother Miguel Mountain (Figure 4.7-2). In addition, Res 1296-4 would be located on an undeveloped hill with an approximate elevation of 1,000 feet AMSL. Res 1296-4 would be situated approximately three miles east of San Miguel Mountain and approximately five miles east of Mother Miguel Mountain. With implementation of Aes-~~SCP~~PDF-1, PS 1296-2 and Res 1296-4 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 4.7-2). The peak of the Jamul Mountains is at 1,627 feet AMSL.



SCENIC RESOURCES WITHIN THE PLANNING AREA **FIGURE 4.7-2**

Both PS 1296-2 (refer to the assumption of this CIP project location discussed above) and Res 1296-4 would be located approximately two miles northwest and northeast, respectively, of the Jamul Mountains. Due to the large distances from these mountains, these CIP projects would not impact this scenic vista.

As stated above, 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 (City of Chula Vista 2002). Due to the view orientation of drivers along Otay Lakes Road, 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 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-~~SCP~~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 4.7-2). The 28,100 acre-foot reservoir is formed by the Sweetwater Dam.

Under the 2009 WRMP Update, the demolition of the existing 657-1 and 850-1 pump stations would occur approximately one mile northeast of Sweetwater Reservoir**.** This project involves the removal of the existing pump stations and revegetation of the project site. No new structures would be constructed; therefore, no visual impacts to this scenic vista would occur.

Pump Station Perdue WTP would be constructed immediately west of the Sweetwater Reservoir, adjacent to the existing Robert A. Perdue Water Treatment Plant. 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 4.7-2). The top of the peak has an elevation of 2,135 feet AMSL.

PS 978-2 would be located approximately 1.5 miles northwest of the base of McGinty Mountain. In between these two features are several hills ranging in elevation from 600 feet AMSL to 800 feet AMSL running along both sides of the Sweetwater River valley. PS 978-2 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 PS 978-2 on a hilltop, this CIP 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 PS 978-2 would not impact this scenic vista.

Upper and Lower Otay Reservoirs

The Upper and Lower Otay reservoirs are located approximately 8 miles west of Chula Vista and 20 miles southeast of San Diego, just outside the central portion of the planning area (Figure 4.7-2). 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.

Res 980-4 would be located at the southwestern base of the Jamul Mountains, approximately one mile northeast of Upper and Lower Otay reservoirs. Res 980-4 would be located on a lower hilltop within the mountain range, and would be visible from areas to the north of the Upper and Lower Otay reservoirs. Because the orientation of the views of this reservoir would be towards the north, away from the Upper and Lower Otay reservoirs which are located to the south of such viewers, implementation of Res 980-4 would not impact this scenic vista.

Under the 2009 WRMP Update, the Lower Otay Pump Station (LOPS) would be adjacent to the southwest of the City of 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: PS 870-2, Res 860-1, and Res 870-2. The LOPS 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 PS 870-2, Res 860-1 and Res 870-2, 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 4.7-2). The nearest above-ground CIP projects to these scenic resources would be located approximately three miles to the southeast (P2482) and 3.5 miles to the northeast (PS 927-1). Due to the large distances from these natural features, these CIP projects would not impact these 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 PS LOPS (adjacent to the City of San Diego OWTP at the southern tip of Lower Otay Reservoir) located about one-half-mile to the northeast, and PS 870-2 (adjacent to the Richard J. Donovan State Correctional Facility and East Mesa Detention Facility within San Diego County) 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 PS 870-2 project site (at approximately 350 feet AMSL). Due to the large distances from these natural features and intervening topography, these CIP projects would not impact this scenic vista.

Mitigation/Performance Measures

Implementation of Aes-~~SCP~~PDF-1 would reduce the visual impacts of Res 980-4, Res 860-1, Res 870-2, LOPS, PS 978-2, PS 870-2, and PS Perdue WTP on scenic vistas within the OWD jurisdiction to a less than significant level.

4.7.3.2 Issue 2 – Visual Character and Quality

Aesthetics Issue 2 Summary

Would any of the CIP projects under the 2009 WRMP Update substantially degrade the existing visual character or quality of the project sites and their surroundings?

Impact: Implementation of OWD's standard requirements for landscaping and using natural color palettes for building materials (Aes-~~SCP~~PDF-1) would ensure that the CIP projects would not degrade the existing visual character of the project sites and their surroundings.

Mitigation: No mitigation is required.

Significance Before Mitigation: Less than significant.

Significance After Mitigation: Less than significant.

Project Design Features/Standard Construction Practices

Implementation of Aes-~~SCP~~PDF-1 listed under 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 2009 WRMP 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 2009 WRMP 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-~~SCP~~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-~~SCP~~PDF-1 would reduce visual impacts associated with CIP construction activities under the 2009 WRMP 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, R2089, P2267, P2454, P2390, and P2048 would not result in long-term, permanent visual impacts, as they would be placed underground.

CIP Reservoir Projects

Reservoirs are typically the most visible of the CIP projects because the function of these facilities requires 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 4.7-1 lists the CIP reservoir projects that would occur in undeveloped areas.

Table 4.7-1. CIP Reservoir Projects in Undeveloped Areas

Project No.	Project Description	Capacity (MG)
Phase II (2009-2016) Potable Water Storage		
P2040	Res 1655-1	0.5
Phase II (2009-2016) Recycled Water Storage		
R2034	Res 860-1	4.0
Phase III (2017-Ultimate) Potable Water Storage		
P2142	Res 1296-4	10.0
P2176	Res 1090-2	1.0
P2228	Res 870-2	10.0
P2233	Res 640-3	10.0
P2431	Res 980-4	5.0

MG = million gallons

Reservoir projects may also feature fencing and/or other above-ground appurtenances. Of the CIP projects listed in Table 4.7-1, Res 860-1, Res 1090-2, Res 870-2, and Res 640-3 would 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. Res 1655-1 would be visible to existing and future residents of Rancho Jamul Estates; Res 1296-4 would be visible to existing residents within the Whispering Meadows neighborhood approximately one-half mile to the north; and 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 (City of Chula Vista 2002). Due to the view orientation of drivers along Otay Lakes Road, Res 980-4 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-~~SCP~~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.

CIP 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. Visual

impacts of the CIP pump station projects associated with the 2009 WRMP Update are discussed individually below.

PS 657-1/850-1 Demolition. This project would involve re-vegetation of the project site with native plant materials upon demolition and removal of these existing pump stations. No new structures would be constructed; therefore, no permanent visual impacts would occur.

PS 927-1 Upgrade. This project would involve an upgrade of the existing PS 927-1 which is adjacent to the existing 680-1 Reservoir. Both facilities are located along Wueste Road within a developed area that contains low- and medium-density residential uses. It is assumed that the upgrade of PS 927-1 would not involve a larger building than the existing structure; therefore, this project would not result in a significant visual impact to viewers within the surrounding residential neighborhood.

PS 870-2. This new pump station would be located adjacent to two existing pump stations, Low-Head and 871-1, and the existing 571-1 Reservoir. The land where this pump station would be located is graded and covered with gravel; the addition of this new reservoir would be consistent with existing uses of the site, and would not represent a stark contrast in the landscape as viewed from the San Diego Regional Firearms Training Center. In addition, with implementation of Aes-~~SCP~~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 870-2 would not result in a significant visual impact.

PS 1296-2. As discussed in Section 4.7.3.1 above, the exact location of this project 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 4.7-2. In addition, with implementation of Aes-~~SCP~~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.

PS 1090-1 Replacement. This new pump station would replace the existing 1090-1 Pump Station, which is located adjacent to the existing 1090-1 Reservoir. It is assumed the replacement pump station would be located within 100 feet of the existing 1090-1 Reservoir, and that it would be similar in size and appearance to the existing pump station. In addition, with implementation of Aes-~~SCP~~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 1090-1 would not result in a significant visual impact to viewers within the surrounding low-density residential neighborhood.

PS 978-2. This new pump station would be located at the site of the existing 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-~~SCP~~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.

PS Perdue WTP. This pump station would be constructed directly west of the Sweetwater Reservoir, adjacent to the existing Robert A. Perdue Water Treatment Plant. 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.

CIP Water Supply Projects

Of the four CIP Water Supply Projects, two projects have the potential to create visual impacts to the surrounding areas, which are discussed below.

Rancho Del Rey Groundwater Well. The Rancho Del Rey Groundwater Well would involve constructing a water treatment system to accompany an existing well located within the City of Chula Vista, near the intersection of Rancho Del Rey Parkway and Terra Nova Drive. This treatment facility would be constructed within the existing OWD property. The site is located within a residential neighborhood and directly adjacent to a childcare facility. With implementation of Aes-~~SCP~~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.

Otay Mesa Lot 7 Well. The Otay Mesa Lot 7 Groundwater Well 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 ~~to~~ with the land uses surrounding the site. Therefore, the Otay Mesa Lot 7 Well would not result in a significant visual impact.

Other CIP Projects

Of the five CIP Water Supply Projects, only one of the projects involves any above-ground activity, as discussed below.

P2370~~.~~ (Dorchester Reservoir and Pump Station Demolition). This project would involve demolition and removal of the existing reservoir and pump station. The re-vegetated area would be compatible with surrounding vegetation; therefore the visual impact of P2370 would be less than significant.

Mitigation/Performance Measures

Implementation of Aes-PDF~~SCP~~-1 and any additional project-specific mitigation measures identified in subsequent CEQA documentation would reduce visual impacts resulting from construction activities and ~~operation~~ design of above-ground CIP projects under the 2009 WRMP Update to a less than significant level~~; therefore, no additional mitigation is required~~.

4.7.3.3 Issue 3 – Lighting and Glare

Aesthetics Issue 3 Summary

Would any of the CIP projects under the 2009 WRMP Update create a new source of substantial light or or glare which would adversely affect day or nighttime views in the immediate vicinity of the CIP projects?

Impact: Implementation of Aes-~~SCP~~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.

Mitigation: No mitigation is required.

Significance Before Mitigation: Less than significant.

Significance After Mitigation: Less than significant.

Project Design Features/Standard Construction Practices

Implementation of OWD's standard requirements for using low-glare building materials (Aes-~~SCP~~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 2009 WRMP 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 2009 WRMP 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 (Res 1655-1); scattered low-density residences west of Campo Road (Res 1090-2 and PS 1090-1); Whispering Meadows neighborhood (Res 1296-4); Richard J. Donovan State Correctional Facility and East Mesa Detention Facility (Res 870-2 and Res 860-1); Sycuan Golf Resort (PS 978-2); low- and-medium density residences along Wueste Road (PS 927-1 Upgrade); San Diego Regional Firearms Training Center (PS 870-2), and the Rancho Del Rey residential neighborhood (P2434). However, with implementation of Aes-~~SCP~~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-~~SCP~~PDF-1 would reduce potential impacts associated with daytime glare from new reservoirs and pump stations under the 2009 WRMP Update to a less than significant level; therefore, no mitigation is required.

4.7.4 CUMULATIVE IMPACTS AND MITIGATION

Aesthetics Cumulative Issue Summary

Would implementation of the 2009 WRMP Update have a cumulatively considerable contribution to a cumulative aesthetic impact considering past, present, and probable future projects?

Cumulative Impact	Significant	WRMP Contribution
Local degradation of scenic vistas.	Yes	Not cumulatively considerable with implementation of Aes-~~SCP~~PDF-1.
Local degradation of visual character.	Yes	Not cumulatively considerable with implementation of Aes-~~SCP~~PDF-1.

Implementation of the 2009 WRMP Update, in conjunction with other reasonably foreseeable development within the planning area (refer to Tables 4.0-5 through 4.0-9 in Chapter 4.0 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.

4.7.4.1 Scenic Vistas

As indicated in Table 4.0-1 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 4.7.3.1 above, implementation of Aes-~~SCP~~PDF-1 would ensure that the CIP projects within the 2009 WRMP Update do not disrupt any publicly available scenic vistas. Therefore, with implementation of Aes-~~SCP~~PDF-1, development of the CIP projects under the 2009 WRMP Update would not result in a cumulatively considerable contribution to scenic vistas within the local cumulative impact areas.

4.7.4.2 Visual Character

As described in Table 4.0-1 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, the 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 WRMP planning area. As identified in Table 4.0-6 in Chapter 4.0 of this PEIR, a total of 17,424 residential dwelling units spanning 5,425 acres, 1,085 acres of commercial development, and 7,086 acres of industrial development would occur within the these jurisdictions and the WRMP planning area, and could result in significant visual character impacts. In addition, several other planned developments listed in Table 4.0-5 and Tables 4.0-7 through 4.0-9 in Chapter 4.0 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 WRMP planning area (i.e., local cumulative impact areas) is significant.

As discussed in Section 4.7.3.2 above, 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, and groundwater well buildings to visually blend them in with their surroundings. Therefore, with implementation of Aes-~~SCP~~PDF-1, development of the CIP projects under the 2009

WRMP Update would not result in a cumulatively considerable contribution to visual character impacts within the local cumulative impact areas.

4.7.5 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2009 WRMP Update

Would implementation of any CIP projects under the 2009 WRMP 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. ~~Therefore, no further analysis is required.~~ 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, and PS 927-1 is located just north of Olympic Parkway. However, existing development is located between both projects and the Scenic Roadway segments which would screen views of these projects from motorists traveling along these roads. Therefore, implementation of these projects would not impact views from State scenic highways or Chula Vista Scenic Roadways, and no further analysis is required.

4.7.6 References

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San Diego County General Plan. 1993. Sweetwater Community Plan. Adopted August 25, 1977. Amended October 28, 1993.

San Diego County General Plan. 1994. Otay Subregional Plan. Adopted May 18, 1983. Amended July 27, 1994.

San Diego County General Plan. 1995. Jamul/Dulzura Subregional Plan. Adopted December 19, 1979. Amended January 11, 1995.

4.8 LAND USE AND PLANNING

This section of the PEIR for the 2009 WRMP 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 2009 WRMP Update; and the project design features, standard construction practices, and mitigation/ performance measures to reduce or avoid the identified impacts. Because the CIP pipelines would be buried, it is not necessary to consider these projects in this land use analysis.

4.8.1 EXISTING LAND USES

The planning area spans across three major jurisdictional areas: the County of San Diego, the City of San Diego, and the 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 reservoir and pump station projects under the 2009 WRMP Update.

4.8.1.1 CIP Reservoir Projects

Res 1655-1

This new reservoir would be located within the Regulatory System of the planning area, within the Rancho Jamul Estates in the County of San Diego. The Res 1655-1 site is undeveloped. Although existing homes within the Rancho Jamul Estates are located approximately 600 feet southeast of the project site, the Jamul/Dulzura CPA designates multiple rural uses within and surrounding the site (DPLU 2004a).

Res 860-1

This new reservoir would be located within the Otay Mesa System of the planning area, adjacent to the existing 870-1 Reservoir within the County of San Diego. The Res 860-1 site is undeveloped, with the exception of a chlorine disinfection station that may need to be removed or relocated prior to construction of the Res 860-1. Immediately southwest of this site are the Richard J. Donovan State Correctional Facility, a State Prison, and the East Mesa Detention Facility, a probation facility owned and operated by the San Diego County Sheriff's Department.

Res 1296-4

This new reservoir would be located within the Regulatory System of the planning area, on land designated by the CDFG as the Jamul Mountain Ecological Reserve, within the County of San Diego. The Res 1296-4 site is undeveloped. Homes are located approximately one-half mile north of the site.

Res 1090-2

This new reservoir would be located within the Regulatory System of the planning area, adjacent to the existing 1090-1 Reservoir within the County of San Diego. The Res 1090-2 site is undeveloped. The area surrounding the site contains low-density residences.

Res 870-2

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 the County of San Diego. 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.

Res 640-3

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 the County of San Diego. The Res 640-3 site is undeveloped. Residences and Cuyamaca College are situated less than a mile to the west and east of the site, respectively.

Res 980-4

This new reservoir would be located within the Central Area System of the planning area, within the City of 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 (City of Chula Vista 2002).

4.8.1.2 CIP Pump Station Projects

PS 657-1/850-1 Demo

These existing pump stations to be demolished are located within the La Presa System of the planning area, at the intersection of Jamacha Boulevard and Sweetwater Springs Boulevard within the County of San Diego. The land surrounding these pump stations is undeveloped. Nearby land uses include a Specific Plan Area to the south and southwest of the site, and industrial uses to the north and northeast (DPLU 2004b).

PS 927-1 Upgrade

This existing pump station to be upgraded is located within the Central Area System of the planning area, adjacent to the existing 680-1 Reservoir within the City of Chula Vista. The PS 927-1 site is situated along ~~Wueste Road~~ Eastlake Parkway within a developed area that contains low- and medium-density residences.

PS 870-2

This new pump station would be located within the Central Area System of the planning area, adjacent to the existing 571-1 Reservoir, Low-Head and PS 871-1 pump stations, Richard J. Donovan State Correctional Facility, and East Mesa Detention Facility within San Diego County. The nearest land use adjacent to this new pump station includes the San Diego Regional Firearms Training Center located along Alta Road.

PS 1296-2

This new pump station would be located within the Regulatory System of the planning area, along the unpaved portion of Proctor Valley Road within San Diego County, on land designated by the CDFG as the Jamul Mountain Ecological Reserve. The PS 1296-2 site and adjacent areas are undeveloped.

PS 1090-1

This new pump station would be located within the Regulatory System of the planning area, adjacent to the existing 1090-1 Reservoir and 1090-1 Pump Station within San Diego County. The PS 1090-1 site is surrounded by low-density residences.

PS 978-2

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 PS 978-2 site is undeveloped, and surrounded by the Sycuan Golf Resort.

PS LOPS ~~Lower Otay Pump Station Expansion~~

This new pump station would be located within the Central Area System of the planning area, adjacent to the existing Lower Otay Pump Station (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 "Other Agency – Preserve Planning Efforts" in the Chula Vista MSCP Subarea Plan. These "100% Preserve" areas are included within the USFWS San Diego National Wildlife Refuge (NWR), Otay-Sweetwater Unit, and the Otay Valley Regional Park (OVRP) Concept Plan.

PS Perdue WTP

This new pump station would be located within the 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 PS Perdue WTP site is located on OWD facility property and the area surrounding the site and the Robert A. Perdue Water Treatment Facility is undeveloped.

4.8.1.3 CIP Water Supply Projects

Rancho Del Rey Well Development

This CIP project would involve constructing a groundwater well production system to accompany an existing well. The existing well would be located within the Otay Mesa System of the planning area within the City of Chula Vista. The current site where the well exists is owned and operated by the OWD, and land uses surrounding the site contain low-density residences.

Otay Mesa Lot 7 Groundwater Well

This CIP project would involve constructing a groundwater well production system to replace the existing Otay Mesa Lot 7 Well. The existing well is located within the Otay Mesa System of the planning area. The proposed groundwater well would be located southwest of the intersection of SR 905 and SR 125 Toll Road. The land uses surrounding the site contain industrial development.

4.8.1.4 Other CIP Projects

Dorchester Reservoir and Pump Station Demolition

An existing reservoir and pump station would be demolished within the La Presa System of the planning area, at the intersection of Dorchester Street and Cornwall Street within the County of San Diego. The land surrounding this reservoir and pump station is primarily residential. Nearby land uses include schools uses northeast of the site and residential to the east, south and west (HDR 2004).

4.8.2 REGULATORY FRAMEWORK

4.8.2.1 State

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, a discussion of the plans and policies that support the provision of water infrastructure is provided below.

4.8.2.2 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 General Plan for the County of San Diego identifies long-range goals and policies for the comprehensive development of land within its jurisdiction. The following 12 specific elements are included within the County General Plan: Open Space, Regional Land Use, Noise, Seismic Safety, Public Facility, Scenic Highway, Energy, Conservation, Public Safety, Recreation, Circulation, and Housing. The Public Facility Element of the General Plan recognizes the need for the timely provision of water facilities concurrent with approved development and growth in the County. Section 13 (Water Provision Systems), Objective 2, Policy 2.1 of the Public Facility Element states that the "County will encourage the regional coordination of water resource management." Implementation Measure 2.1.2 of this policy states that the "County will support the SDCWA to obtain sufficient local, regional, and statewide water development facilities to meet the planned need."

The County of San Diego subdivides its jurisdictional area into Subregional Plan Areas and CPAs, five of which reside within the WRMP planning area (refer to Figure 4.7-1 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 WRMP planning area are discussed below.

Crest-Dehesa

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 Subregional Plan, which was originally adopted on August 13, 1980, and amended on December 20, 1989. The following policies from the Public Facilities and Services Element of this subregional plan support the provision of water infrastructure:

- Policy 1 under the Fire Protection subsection states that all new development within the CPA that utilizes imported water shall provide fire suppression infrastructure, including pipes and hydrants in accordance with relevant standards.
- Policy 1 under the Liquid Waste Disposal subsection states that the Plan shall encourage investigation of the formation of on-site wastewater management zones or districts with the intent of developing systems that are less polluting to surface water and ground water.
- Policy 1 under the Water Service subsection states that imported water service and infrastructure to Dehesa shall be coordinated such that service can be provided to all land within the SDCWA jurisdiction in a cost-effective manner.

Jamul-Dulzura

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, and amended on January 11, 1995. This subregional plan does not contain any relevant policies that support the provision of water infrastructure.

Otay Subregion

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, and amended on July 27, 1994. 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

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 the City of Chula Vista, and west of the Jamul-Dulzura CPA (refer to Figure 4.7-1 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, and amended on October 28, 1993. 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

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, La Presa, Dictionary Hill, 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 on August 1, 1990. 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 2008. The recently amended version of this General Plan was completed utilizing sustainable design principles that the City refers 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 WRMP 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 General Plan for the City of Chula Vista was ~~adopted in 1989, and amended in~~ comprehensively updated in December 2005. It includes the following ~~eight~~ six elements: Land Use and ~~,~~ Transportation, Economic Development, Housing, Public Facilities and Services, Environmental, and Growth Management. ~~A relatively small~~ The southwest portion of the ~~WRMP~~ planning area ~~(southeast portion of the Central Area System)~~ is within the City of Chula Vista. The Public Facilities and Services Element of the City 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 (MSCPs)

Portions of the WRMP planning area occur within the planning areas of the County of San Diego, City of San Diego, and City of Chula Vista MSCPs (refer to Figure 4.2-1 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 4.2-1 of this PEIR, the "100% Preserve" (County of San Diego and City of Chula Vista MSCPs) and "Hardline Preserve" (City of San Diego MSCP) areas shown in red, 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 4.8.3.1 below).

Both the Otay-Sweetwater Unit of the San Diego NWR and the OVRP encompass portions of "100% Preserve" 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.

The OWD is not a signatory to the implementing agreements of any of the above-mentioned MSCP subarea plans. The OWD is currently preparing a draft MSCP Subarea Plan. This Subarea Plan will include measures for avoiding or minimizing impacts to biological resources as a result of the construction or operation of OWD projects. Once approved, this Plan will allow for the issuance of any applicable State and federal "take" authorizations for species of sensitive plants and animals within the Subarea Plan area. In addition, this Plan will include use of the San Miguel Habitat Management Area (HMA) as a mitigation bank for OWD projects. The San Miguel HMA is a 230-acre biological reserve located within the WRMP planning area. This reserve contains several sensitive or listed plant and animal species including Otay tarplant, California gnatcatcher, least Bell's vireo, mule deer, golden eagle, and western spadefoot toad (refer to Section 4.3, Biological Resources, of this PEIR for more information).

4.8.3 IMPACTS AND MITIGATION

4.8.3.1 Issue 1 – Conflicts with Habitat Conservation and Natural Communities conservation Plans

Land Use Issue 1 Summary

Would the 2009 WRMP Update conflict with any applicable habitat conservation plan (HCP) or natural communities conservation plan (NCCP)?

Impact: 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.	**Mitigation:** No mitigation is required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP Update would include, but would not be limited to, the following PDFs and SCPs, including Noi-PDF-1, 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 "100% Preserve" areas under the County of San Diego MSCP (refer to Figure 4.2-1 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.
- Fencing will be installed along the reserve boundary to prevent uncontrolled human access.

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 4.2-1 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.
- 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.
- 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.

LU-PDF-3 The design of CIP reservoirs, groundwater wells, pump stations, and water supply projects located within and adjacent to the "100% Preserve" areas under the City of Chula Vista MSCP (refer to Figure 4.2-1 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.
- 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.

Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2009 WRMP Update may have a significant impact if it would conflict with any applicable HCPs or NCCPs.

Impact Analysis

As described in Section 4.8.1.1 above, Res 1296-4 and PS 1296-2 would be located within the Jamul Mountain Ecological Reserve under the County of San Diego MSCP. In addition, the following CIP projects under the 2009 WRMP Update would be located within or adjacent to the MSCP reserves identified in Figure 4.2-1 of this PEIR: PS 978-2, PS 1296-2, Res 640-3, Res 860-1, Res 870-2, Res 1090-2, Res 980-4, and the Rancho Del Rey Groundwater Well. In addition, lands to the west of PS LOPS are designated "Other Agency – Preserve Planning Efforts" in the Chula Vista MSCP Subarea Plan. These "100% Preserve" 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 San Diego, and City of Chula Vista 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 PS 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 adjacent 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 2009 WRMP Update to a less than significant level; therefore, no mitigation is required.

4.8.4 CUMULATIVE IMPACTS AND MITIGATION

Land Use and Planning Cumulative Issue Summary

Would implementation of the 2009 WRMP Update have a cumulatively considerable contribution to a cumulative land use and planning impact considering past, present, and probable future projects?

Cumulative Impact	Significant	WRMP Contribution
Conflicts with regional HCPs/NCCPs, in terms of indirect impacts to biological resources in MSCP reserves.	Yes	Not cumulatively considerable with implementation of LU-PDF-1, LU-PDF-2, LU-PDF-3, and LU-SCP-1.

Cumulative impacts are evaluated for environmental issues for which the impacts associated with implementation of the 2009 WRMP Update would be significant or less than significant. Since implementation of the 2009 WRMP Update would not physically divide an established community or conflict with any land use plan, policy or regulation of the County of San Diego, the City of San Diego, or the City of Chula Vista, these issues are not addressed in this section.

4.8.4.1 Conflicts with HCPs/NCCPs

As indicated in Table 4.0-1 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 San Diego, and the City of Chula Vista. Land disturbance and construction activities associated with some of the cumulative projects identified in Chapter 4.0 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). 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 4.8.3.1 above, all CIP projects under the 2009 WRMP 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, the City of San Diego, and the City of Chula Vista 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 and LU-SCP-1, potential indirect impacts from these CIP projects on biological resources within adjacent MSCP reserves would not result in a cumulatively considerable contribution to conflicts with HCPs/NCCPs within the regional cumulative impact area.

4.8.5 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2009 WRMP Update

Would implementation of any of the CIP projects under the 2009 WRMP 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: Res 1655-1, Res 1294-4, Res 980-4, PS 657-1 and PS 850-1 Demolition, and PS 1296-2. The following CIP projects would be implemented on OWD property adjacent to existing OWD facilities, and thus would not divide an established community: Res 860-1, Res 870-1, Res 1090-2, Res 640-3, PS 927-1 Upgrade, PS 870-2, PS 1090-1, PS 978-2, PS Perdue WTP, LOPS Expansion, P2370, P2434, and P2482. Therefore, no further analysis is required.

Would implementation of the 2009 WRMP 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 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 2009 WRMP Update would not conflict with any land use plan, policy, or regulation of the County of San Diego, the City of San Diego, or the City of Chula Vista. Furthermore, as outlined in Section 4.8.2.2 above, there are many policies within these agency general plans that support the provision of water infrastructure. Therefore, no further analysis is required.

4.8.6 REFERENCES

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4.9 NOISE

This section of the PEIR for the 2009 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 2009 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.

4.9.1 ENVIRONMENTAL SETTING

4.9.1.1 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 a sound decreases (or attenuates) exponentially as the distance from the source of that 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/L_{dn} 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 L_{eq}). Community noise levels are generally perceived as quiet when the L_{dn} is below 50 dBA, moderate in the 50 to 60 dBA L_{dn} range, and loud above 60 dBA L_{dn}. Urban residential areas are usually above 65 dBA L_{dn}. Along major thoroughfares, roadside noise levels are typically between 65 and 75 dBA L_{dn}.

4.9.1.2 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 Authority 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).

4.9.1.3 Existing Noise Conditions

The OWD planning area includes a wide range of land uses. The following discussion describes transportation noise sources, operational noise sources that comprise the existing noise environment within the planning area.

Transportation Noise Sources

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 Interstate 805 (along the eastern border), State Route (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 (See Figure 4.10-1- Public and Private Airports within the OWD Planning Area in the Public Safety Section). 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 (see Section 4.10, Public Safety, Figure 4.10-1- Public and Private Airports within the OWD Planning Area airport locations). 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 eastern portion of the OWD planning area, located within the City of San Diego (refer to Figure 4.10-1).

Operational Noise Sources

Commercial/Industrial Noise. 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.

4.9.1.4 Noise-Sensitive Land Uses (NSLU)

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: the County of San Diego, the City of San Diego, and the 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 4.8, Land Use. The CIP projects that are located in close proximity (less than one-quarter of a mile) to residential land uses are Res 1655-1, Res 1090-2, Res 640-3, PS 1090-1, PS 978-2, Recycled PS 927-1, PS 870-2, PS 1296-2, P2434, and P2482.

4.9.1.5 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.

4.9.2 REGULATORY FRAMEWORK

4.9.2.1 Federal

Federal Transit Administration (FTA) 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.

4.9.2.2 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.

4.9.2.3 Local

The planning area spans three major jurisdictional areas: the County of San Diego, the City of San Diego, and the City of Chula Vista.

San Diego County Noise Ordinance

The County of San Diego 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 4.9-1 shows the allowable noise levels and corresponding times of day for each zoning designation.

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.

Table 4.9-1. 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-87, S-90, S-92, R-V, and R-U Use Regulations with a density of less than 11 dwelling units per acre.	50 dBA	7:00 a.m. – 10:00 p.m.
	45 dBA	10:00 p.m. – 7:00 a.m.
(2) R-RO, R-C, R-M, S-86, RV, AND R-U Use Regulations with a density of 11 or more dwelling units per acre.	55 dBA	7:00 a.m. – 10:00 p.m.
	50 dBA	10:00 p.m. – 7:00 a.m.
(3) S-94, V4, and all commercial zones.	60 dBA	7:00 a.m. – 10:00 p.m.
	55 dBA	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: San Diego County Municipal Code, January 2009.

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 4.9-2).

Table 4.9-2. City of San Diego Exterior Noise Standards

Land Use	Limit One-Hour dBA[(1)]	Time Period
Single Family Residential	50 dBA	7:00 a.m. – 7:00 p.m.
	45 dBA	7:00 p.m. – 10:00 p.m.
	40 dBA	10:00 p.m. – 7:00 a.m.
Multi-Family Residential (Up to a maximum density of 1/2000)	55 dBA	7:00 a.m. – 7:00 p.m.
	50 dBA	7:00 p.m. – 10:00 p.m.
	45 dBA	10:00 p.m. – 7:00 a.m.
All other Residential	60 dBA	7:00 a.m. – 7:00 p.m.
	55 dBA	7:00 p.m. – 10:00 p.m.
	50 dBA	10:00 p.m. – 7:00 a.m.
Commercial	65 dBA	7:00 a.m. – 7:00 p.m.
	60 dBA	7:00 p.m. – 10:00 p.m.
	60 dBA	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 4.9-3 includes the exterior noise standards for the city of 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 above in Table 4.9-3. 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 4.9-3. City of Chula Vista Exterior Noise Standards

Land Use	Limit One-Hour dBA[1]	Time Period (Weekdays)	Time Period (Weekends)
Single Family Residential	55 dBA	7:00 a.m. – 10:00 p.m.	8:00 p.m. – 10:00 p.m.
	45 dBA	10:00 p.m. – 7:00 a.m.	10:00 p.m. – 8:00 a.m.
Multi-Family Residential	60 dBA	7:00 a.m. – 10:00 p.m.	8:00 a.m. – 10:00 p.m.
	50 dBA	10:00 p.m. – 7:00 a.m.	10:00 p.m. – 8:00 a.m.
Commercial	65 dBA	7:00 a.m. – 10:00 p.m.	8:00 a.m. – 10:00 p.m.
	60 dBA	10:00 p.m. – 7:00 a.m.	10:00 p.m. – 8:00 a.m.
Light Industry (I-R and I-L zone)	70 dBA	7:00 a.m. – 10:00 p.m.	8:00 a.m. – 10:00 p.m.
	70 dBA	10:00 p.m. – 7:00 a.m.	10:00 p.m. – 8:00 a.m.
Heavy Industry (I zone)	80 dBA	7:00 a.m. – 10:00 p.m.	8:00 a.m. – 10:00 p.m.
	80 dBA	10:00 p.m. – 7:00 a.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 Municipal Code.

4.9.3 PROJECT IMPACTS AND MITIGATION

4.9.3.1 Issue 1 – Substantial Permanent Increases in Ambient Noise Levels

Noise Issue 1 Summary

Would implementation of the 2009 WRMP Update result in a substantial permanent increase in ambient noise levels or expose persons to noise in excess of standards?

Impact: 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.

Mitigation: No mitigation is required.

Significance Before Mitigation: Less than significant.

Significance After Mitigation: Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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:

- CIP Projects located within the County of San Diego (PS 1090-1, PS 978-2, PS 870-2, and PS 1296-2) 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.).
- CIP Projects located within the City of San Diego (Otay Mesa Lot 7 Well) 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.).
- CIP Projects located within the City of Chula Vista (Recycled PS 927-1, and Rancho Del Ray Well) 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 2009 WRMP 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 the County of San Diego, City of San Diego, and the City of Chula Vista shall be used, as defined in Tables 4.9-1, 4.9-2, and 4.9-3, respectively.

Impact Analysis

The potential for implementation of the 2009 WRMP 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 5.0, Effects Found Not to be Significant, operation of CIP projects proposed under the 2009 WRMP 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 2009 WRMP Update would not result in permanent increases in ambient noise associated with transportation noise sources.

Operational Noise Sources

Operational noise sources associated with the 2009 WRMP Update could potentially affect nearby residences. The operational noise levels would vary depending on the type of CIP project, as described below.

Storage CIP Projects. Six water storage CIP 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.

Pipeline CIP Projects. Pipeline CIP 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.

Pump Station CIP Projects. Pump stations are ~~the~~ 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 2009 WRMP Update proposes construction of seven new pump stations: two (PS Lower Otay Pump Station, and PS Perdue WTP) within Phase II and five (PS 870-2, PS 1296-2, PS 1090-1, PS 978-2, and the Lower Otay Pump Station Expansion) within Phase III. CIP project PS 927-1 scheduled for Phase I is an upgrade of an existing pump station. 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). The following CIP pump station projects are located adjacent to residential land uses: PS 1090-1, PS 978-2, Recycled PS 927-1, PS 870-2, and PS 1296-2. 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.

Water Supply CIP Projects

Of the water supply CIP projects proposed within the OWD planning area, the well development projects, P2482 (Otay Mesa Lot 7 Groundwater Well) and P2434 (Rancho Del Rey Well Development), are the most likely to generate exterior noise that may be audible beyond the facility site due to the groundwater pumps and water treatment processes used for operation of the facilities. Both projects would involve upgrades to an existing well, including treatment of the well water to make it safe for human consumption. At this time, the exact components and equipment required for the water treatment systems are unknown; however, the water treatment facilities would be housed within a freestanding outdoor

building, which would insulate the treatment facilities and attenuate operational noises associated with the treatment process. In addition, implementation of Noi-PDF-1 would ensure that mechanical equipment is enclosed, and that the exterior noise limits that may affect nearby residents are not exceeded.

The remaining two water supply projects, R2089 and R2094, would not involve the construction of structures which would generate operational noise. Operation of these two water supply CIP projects would not result in an increase to ambient noise levels. Therefore, no permanent ambient noise impact would occur.

Other CIP Projects

The five Other CIP projects being proposed in the 2009 WRMP Update, shown in Table 4.9-4 below, would not involve the construction of structures which would generate operational noise. Operation of these five CIP projects would not result in an increase to ambient noise levels. Therefore, no permanent ambient noise impact would occur.

Table 4.9-4. Other CIP Projects

Project No.	Project Description
Phase II (2009-2016)	
P2267	36-Inch Main Pumpouts and Air/Vacuum Ventilation Installations
P2370	Dorchester Reservoir and Pump Station Demolition
P2454	Vaults and Meter, Alta Road and Use Area
Phase III (2017-Ultimate)	
P2390	Siempre Viva Bridge Pipeline Crossings
R2048	RecPL - Misc Distribution Pipelines

Mitigation/Performance Measures

No mitigation is required.

4.9.3.2 Issue 2 – Temporary Increases in Ambient Noise

Noise Issue 2 Summary

Would implementation of the 2009 WRMP Update result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity?

Impact: 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 of the OWD Standard Specifications for Explosives and Blasting. Implementation of these SCPs would reduce impacts associated with temporary increases in ambient noise.

Mitigation: No mitigation is required.

Significance Before Mitigation: Less than significant.

Significance After Mitigation: Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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:

- 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 the City of 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 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.
- 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 (5) work days in advance of blasting activities within three hundred (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 2009 WRMP 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 2009 WRMP 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 (US 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, the City of San Diego, and the 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 (5) work days in advance of blasting activities within three hundred (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 2009 WRMP 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

No mitigation is required.

4.9.3.3 Issue 3 – Excessive Groundborne Vibration or Noise

Noise Issue 4 Summary

Would implementation of the 2009 WRMP Update result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Impact: Construction of CIP projects may temporarily result in excessive groundborne vibration and noise that may affect surrounding land uses. However, implementation of the OWD Standard Specifications for Explosives and Blasting (Noi-SCP-2) would reduce groundborne vibration from construction activities ~~to a less than significant level~~.

Mitigation: No mitigation is required.

Significance Before Mitigation: Less than significant.

Significance After Mitigation: Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP Update would include, but would not be limited to, Noi-SCP-1 and Noi-SCP-2 (refer to Section 4.9.3.2, Issue 2, of this PEIR) 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 2009 WRMP 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 2009 WRMP 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

No mitigation is required.

4.9.4 CUMULATIVE IMPACTS AND MITIGATION

Noise Cumulative Issue Summary

Would implementation of the 2009 WRMP Update have a cumulatively considerable contribution to a cumulative noise impact considering past, present, and probable future projects?

Cumulative Impact	Significance	Proposed Project Contribution
Substantial Permanent Ambient Noise Increases	Less than significant.	Not cumulatively considerable.
Temporary Increases in Ambient Noise	Less than significant.	Not cumulatively considerable.
Generation of Groundborne Vibration	Less than significant.	Not cumulatively considerable.

4.9.4.1 Noise

Noise by definition is a localized phenomenon, and ~~reduces~~ 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 ~~projects~~ adjacent to roadways and freeways used by construction-related traffic along which the projected increase in CIP construction traffic ~~would~~ may exceed noise standards, would be ~~likely to contribute to~~ affected by cumulative noise impacts.

~~4.9.4.1~~ *Substantial Permanent Ambient Noise Increases*

As discussed in Section 4.9.3.1, substantial permanent 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 ~~projects~~ and water supply projects ~~would be~~ 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 ~~noise environment~~impacts areas surrounding each CIP project site.

~~4.9.4.2~~ *Temporary Increases in Ambient Noise*

~~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. However, a~~As discussed in Section 4.9.3.2 (Issue 2) of this PEIR, all CIP construction projects under the 2009 WRMP 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 ~~impacts~~ levels associated with ~~the~~ CIP construction ~~projects~~ activities would not result in a cumulatively considerable contribution to noise impacts within the local cumulative impact areas ~~represented by the areas adjacent to~~ surrounding each CIP project site~~s~~.

4.9.4.~~3~~2 Generation of Groundborne Vibration

Cumulative development within the ~~OWD~~ planning area is not likely to result in the exposure of people to, or the generation of, excessive groundborne vibration ~~and/or noise levels,~~ due to the localized nature of vibration impacts, and the ~~fact~~ likelihood that all construction would not occur at the same time or at the same location. ~~Construction activities associated with the 2009 WRMP Update are not anticipated to include intensive activities such as pile driving, which may be a significant source of groundborne vibration; t~~Therefore, ~~the~~ 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 ~~OWD~~ 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, ~~no~~ 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~~ contribution would occur with implementation of the 2009 WRMP Update~~.

4.9.5 CEQA Checklist Items Deemed Not Significant or Not Applicable to the 2009 WRMP Update

Would implementation of the 2009 WRMP Update expose people residing or working in the project area to excessive noise levels resulting from aircraft?

The ~~OWD~~ planning area is located within two miles of one public airport and one private airstrip. The ~~OWD~~ planning area is subject to periodic commercial/general aircraft and helicopter overflights from regional airports, however, the CIP projects included within the 2009 WRMP Update include pump stations, reservoirs, pipelines, and water supply projects, which do not contain any residential housing. Further, ~~the 2009~~ these projects would not affect the aircraft flight patterns of regional airports. Therefore, no impact would occur, and no further analysis is required.

4.9.6 REFERENCES

City of Chula Vista. 2005. *Chula Vista General Plan. Chapter 5: Land Use and Transportation Element*. December 13.

City of Chula Vista Municipal Code. Chapter 19.68, Performance Standards and Noise Control. Amended November 2005.

City of San Diego. 2008. City of San Diego General Plan. Noise Element. March.

City of San Diego Municipal Code. Chapter 5, Public Safety, Morals and Welfare, Amended December 2007.

San Diego County. 1975. San Diego County General Plan: Noise Element. Adopted February 20, 1975. Amended September 27, 2006.

San Diego County Municipal Code. Title 3, Division 6, Chapter 4. Amended January 2009.

U.S. Environmental Protection Agency. 1971. *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*. Prepared under contract by Bolt, et al., Bolt, Beranek & Newman, Boston, Massachusetts. Washington, D.C.

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4.10 PUBLIC SAFETY

This section of the PEIR for the 2009 WRMP 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 CIP projects under the 2009 WRMP Update; and the project design features, standard construction practices, and mitigation/performance measures to reduce or avoid the identified impacts.

4.10.1 ENVIRONMENTAL SETTING

4.10.1.1 Use and Disposal of Hazardous Materials At CIP Project 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 project sites would require the use of vehicle related fuels, lubricants, oils, paints, and solvents. Water storage CIP projects may utilize chlorine gas, sodium hypochlorite, and aqueous ammonia for water disinfecting purposes.

4.10.1.2 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 U.S. Department of Transportation (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 4.10.2.1 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.

4.10.1.3 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 (Cal Fire) 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.

4.10.1.4 Emergency Response and Evacuation plans

The County of San Diego Office of Emergency Services (OES) established the San Diego County Community Protection/Evacuation Committee in 2003. This committee is charged with ensuring that the various communities within the unincorporated County create community protection and evacuation plans. Jamul/Dulzura is the only community within the planning area that has an adopted plan, the *Jamul Community Protection Plan* (2006).

In addition, the *Multi-Jurisdictional Hazard Mitigation Plan* (2004) proposes solutions in which various jurisdictions can reduce risks from wildland fire hazards. Both the City of San Diego and the City of Chula Vista are participating jurisdictions within this Plan and use it as their overriding planning document in terms of emergency and evacuation preparedness.

4.10.1.5 OWD Hazardous Materials Business Plan (HMBP)

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.

4.10.2 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 U.S. Environmental Protection Agency (USEPA) and the federal Occupational Safety and Health Administration (Fed/OSHA). At the State level, agencies such as the California Environmental Protection Agency (Cal/EPA), California Department of Toxic Substances Control (CDTSC), California Occupational Safety and Health Administration (Cal/OSHA) govern the use of hazardous materials.

4.10.2.1 Federal

Resource Conservation and Recovery Act (RCRA) of 1976

Federal hazardous waste laws are generally promulgated under 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 USEPA 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 (SPCC) Plan 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.

4.10.2.2 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 (UST) Act

The 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 (Cal/ARP) replaced the previous California Risk Management and Prevention Program (RMPP) and incorporated the mandatory federal requirements. Cal/ARP addresses facilities containing specified hazardous materials ("regulated substances") that, if involved in an accidental release, could result in adverse off-site consequences. Cal/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 Office of Emergency Services and includes response to hazardous materials incidents. The California Office of Emergency Services coordinates the response of other agencies, including the Cal/EPA, CHP, CDFG, RWQCB, San Diego Air Pollution Control District (APCD), and the various city fire departments and fire protection districts in the County.

4.10.2.3 Local

Multi-Jurisdictional Hazard Mitigation Plan

The *Multi-Jurisdictional Hazard Mitigation Plan* (County OES 2004) identifies the following hazards within the San Diego region along with the emergency response/evacuation plans to avoid such hazards: coastal storms/erosion/tsunami, dam failure, earthquakes, floods, rain-induced landslides, liquefaction, structure/wildland fire, and manmade hazards (hazardous materials and terrorism).

Jamul Community Protection Plan

The *Jamul Community Protection Plan* (Jamul Disaster Team 2006) identifies the following hazards within the community of Jamul Dulzura along with the emergency response/evacuation plans to avoid such hazards: earthquakes, floods, landslides, liquefaction, wildfire/structure fire, and terrorist-related attacks.

4.10.3 IMPACTS AND MITIGATION

4.10.3.1 Issue 1 – Transport, Use, and Disposal of Hazardous Materials and Accidental Releases

Hazards and Hazardous Materials Issue 1 Summary

Would implementation of the 2009 WRMP Update 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?

Impact: Implementation of a Hazardous Materials Business Plan (Haz-SCP-1 and Haz-PDF-1) 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 2009 WRMP Update, and associated accidental releases of hazardous materials into the environment and near schools.	**Mitigation:** No mitigation is required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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.

Standards of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the 2009 WRMP 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 CIP projects under the 2009 WRMP 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 2009 WRMP 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 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 and Haz-PDF-1 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.

4.10.3.2 Issue 2 – Listed Hazardous Materials Sites

Hazards and Hazardous Materials Issue 2 Summary

Would implementation of the 2009 WRMP Update result in activities located on a listed hazardous materials site creating a significant hazard to the public or environment?

Impact: 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:** A Remediation Plan shall be implemented if contaminated soils or groundwater is encountered during CIP construction activities (Haz-2A).
Significance Before Mitigation: Potentially significant.	**Significance After Mitigation:** Less than significant.

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 2009 WRMP 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 project 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 project 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 CIP projects (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.

4.10.3.3 Issue 3 – Emergency Response and Evacuation Plans

Hazards and Hazardous Materials Issue 3 Summary

Would implementation of the 2009 WRMP Update impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Impact: 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.	**Mitigation:** No mitigation is required.
Significance Before Mitigation: Less than significant.	**Significance After Mitigation:** Less than significant.

Project Design Features/Standard Construction Practices

Implementation of the 2009 WRMP 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 the California Department of Transportation (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:

- 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.
- Provide trained and equipped flag persons to regulate traffic flow when construction activities encroach onto traffic lanes.
- 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.
- Traffic control equipment, devices, and post settings will be removed when no longer required. Any damage caused by equipment installation will be repaired.
- 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 2009 WRMP 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 CIP projects 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 Multi-Jurisdictional Hazard Mitigation Plan, which applies to the entire planning area, and the Jamul Community Protection Plan, which applies to the following CIP projects within the Jamul-Dulzura community planning area: PS 1090-1, Res 1090-2, P2177, Res 1296-4, PS 1296-2, and Res 980-4. 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.

4.10.4 CUMULATIVE IMPACTS AND MITIGATION

Public Safety Cumulative Issue Summary

Would implementation of the 2009 WRMP Update have a cumulatively considerable contribution to cumulative public safety impacts considering past, present, and probable future projects?

Cumulative Impact	Significant	WRMP Contribution
Transport, use, and disposal of hazardous materials and accidental releases into the environment and near schools.	Yes	Not cumulatively considerable with implementation of Haz-SCP-1 and Haz-PDF-1.

Impacts relative to listed hazardous materials sites and emergency response and evacuation plans 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.

4.10.4.1 Transport, Use, and Disposal of Hazardous Materials and Accidental Releases

As indicated in Table 4.0-1 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 4.0-5 through 4.0-9 in Chapter 4.0 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 4.10.3.1 above, 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 CIP projects under the 2009 WRMP 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.

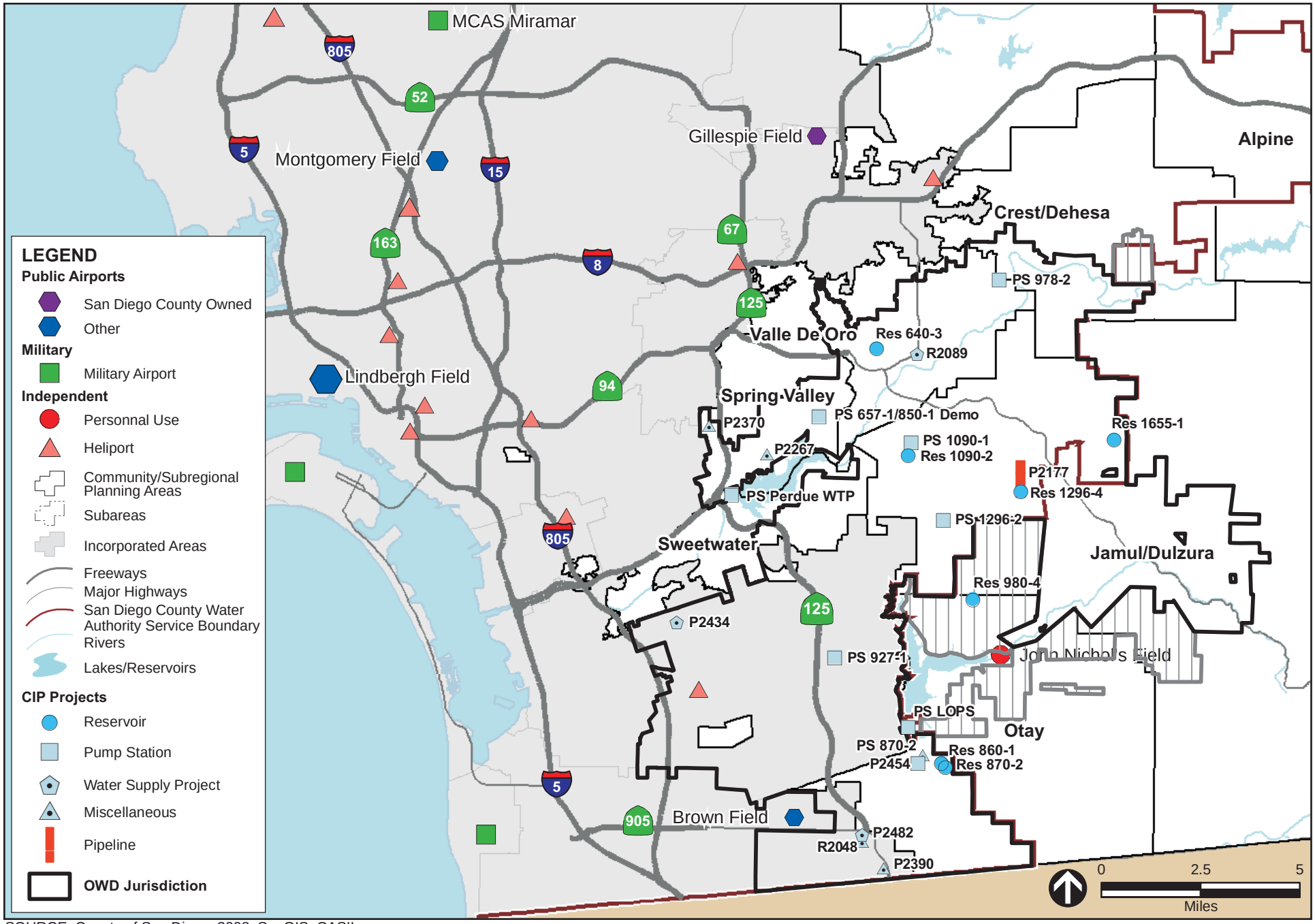
4.10.5 CEQA CHECKLIST ITEMS DEEMED NOT SIGNIFICANT OR NOT APPLICABLE TO THE 2009 WRMP UPDATE

Would implementation of the 2009 WRMP 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?

With the exception of Res 980-4, none of the CIP projects under the 2009 WRMP 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 project site is Brown Field, which is operated by the City of San Diego and would be located approximately four miles west of PS 870-2. Res 980-4 would be located within two miles of John Nichol's Field, a private airstrip; however, since there would be no human occupation associated with this CIP project, its proximity to John Nichol's 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 2009 WRMP 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 2009 WRMP 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 2009 WRMP Update from wildland fires to a less than significant level, and no further analysis is required.



SOURCE: County of San Diego, 2008; SanGIS; CASIL

PUBLIC AND PRIVATE AIRPORTS WITHIN THE OWD PLANNING AREA **FIGURE 4.10-1**

4.10.6 REFERENCES

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CHAPTER 5.0
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 Found Not to be Significant or Deemed Not Applicable to the 2009 WRMP 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 2009 WRMP Update did not fall under the topics analyzed in Chapter 4, and are therefore discussed in Sections 5.1 and 5.2 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 5.3);
- Significant environmental effects that cannot be avoided upon implementation of the 2009 WRMP Update (Section 5.4); and
- Significant irreversible environmental effects associated with implementation of the 2009 WRMP Update (Section 5.5).

5.1 EFFECTS FOUND NOT TO BE SIGNIFICANT

Implementation of the 2009 WRMP Update would not result in significant impacts to agricultural resources, mineral resources, and transportation and traffic, as discussed below and, therefore, further analysis in this PEIR is not necessary.

Agricultural Resources

Would implementation of the 2009 WRMP 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 Important Farmland Map of Western San Diego County (California Resources Agency 2008), none of the CIP projects under the 2009 WRMP 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 2009 WRMP Update, and no further analysis is required.

Would implementation of the 2009 WRMP Update conflict with existing zoning for agricultural use, or a Williamson Act contract?

According to the California Department of Conservation, Division of Land Resource Protection, 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 CIP projects under the 2009 WRMP Update. Accordingly, the 2009 WRMP Update would not conflict with any Williamson Act contracts or existing zoning for agricultural uses, and no further analysis is required.

Would implementation of the 2009 WRMP 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?

Implementation of the 2009 WRMP 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 2009 WRMP Update, and no further analysis is required.

Mineral Resources

Would implementation of the 2009 WRMP 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 (DPLU 2007), 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 2009 WRMP Update would be constructed on disturbed sites adjacent to existing OWD facilities, and therefore would not result in the loss of potential mineral resources. The following new CIP reservoirs and pump stations would be constructed on undeveloped lands in either MRZ 2 or MRZ 3 that are not located within a planned development area: Res 1296-4, PS 1296-2, and PS LOPS. However, the small development footprints associated with these three CIP projects would not result in a significant loss of known mineral resources or locally important mineral resource recovery sites, and no further analysis is required.

Transportation and Traffic

Would implementation of the 2009 WRMP Update 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?

Construction of CIP projects under the 2009 WRMP Update would generate a minor amount of daily construction-related trips from trucks hauling soil and/or demolition materials from the 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. Traffic associated with operation of the CIP projects are primarily from employee commutes. However, operation of CIP projects proposed under the 2009 WRMP 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, and no further analysis is required.

Would implementation of the 2009 WRMP Update exceed either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

As discussed in the preceding paragraph, the incremental increases in short-term, construction-related vehicle trips and long-term operational trips associated with the CIP projects under the 2009 WRMP 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 2009 WRMP Update, no further analysis is required.

Would implementation of the 2009 WRMP 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 reservoir and pump station, where necessary. Therefore, development of CIP reservoirs and pump stations under the 2009 WRMP Update would not result in inadequate emergency access, and no further analysis is required.

Would implementation of the 2009 WRMP Update result in inadequate parking capacity?

The only parking that would be necessary at the CIP reservoirs, pump stations, and wells would be one permanent parking space for an OWD vehicle for maintenance and repair purposes. Therefore, development of CIP reservoirs and pump stations under the 2009 WRMP Update would not result in inadequate parking capacity, and no further analysis is required.

Would implementation of the 2009 WRMP 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 2009 WRMP Update would not conflict with adopted policies, plans, or programs supporting alternative transportation, and no further analysis is required.

5.2 CEQA CHECKLIST ITEMS NOT APPLICABLE TO THE 2009 WRMP UPDATE

The following four topics were not analyzed in Chapter 4.0 of this PEIR because they are not applicable to the 2009 WRMP Update: population and housing, public services, recreation, and utilities and service systems. Additionally, two issues regarding transportation and traffic were found to be not applicable to the 2009 WRMP Update. The rationale for these findings are explained below.

Population and Housing

Implementation of the 2009 WRMP Update would not displace substantial numbers of existing housing or people, otherwise necessitating the construction of replacement housing elsewhere. Therefore, there would be no impact to housing, and no further analysis is required. The potential for the 2009 WRMP Update to induce substantial population growth, either directly or indirectly is discussed in Section 5.3 below.

Public Services

Implementation of the 2009 WRMP 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. As such, implementation of the 2009 WRMP 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 2009 WRMP 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.

Transportation and Traffic

Implementation of the 2009 WRMP Update would not change air traffic volumes that would result in substantial safety risks. Additionally, implementation of the 2009 WRMP Update would not involve any roadway or intersection improvements that could substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections). Therefore, there would be no impact to air traffic patterns or no traffic safety hazards, and no further analysis is required.

Utilities and Service Systems

Implementation of the 2009 WRMP 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 2009 WRMP Update would require construction of new, and expansion of existing, OWD water facilities, the environmental effects of which are addressed in this PEIR. The 2009 WRMP Update would require the construction of limited storm water drainage facilities at new CIP reservoir and pump station sites (refer to Section 4.6.3.3 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 2009 WRMP 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 2030. Because the 2009 WRMP Update would be in response to projected growth in the region (refer to Section 5.3 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 4.10 (Public Safety) of this PEIR, all demolition debris and construction waste associated with construction of CIP projects under the 2009 WRMP 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 2009 WRMP Update would not generate solid waste that would impact the permitted capacity of area landfills.

5.3 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 2009 WRMP Update to identify the CIP projects that would be needed to serve OWD customers. As discussed in Chapter 4.0 (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 2009 WRMP 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 2009 WRMP Update are based partly on SANDAG's 2004 Regional Comprehensive Plan (RCP). The RCP provides growth projections based on land use data provided by local jurisdictions, and also provides a regional framework to help guide growth and development throughout San Diego. As such, the planning horizon for both the RCP and the 2009 WRMP Update is the year 2030.

With the exception of the portion of the planning area within the City of Chula Vista, the 2009 WRMP 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 CIP projects under the 2009 WRMP 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 2002 WRMP and the present 2009 WRMP Update, Chula Vista has grown by nearly 11,500 new residential units (PBS&J 2008). 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 2008 through 2012 (City of Chula Vista 2007). In addition, the 2009 WRMP 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 the City of 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 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 2009 WRMP 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 5.3 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 CIP projects under the 2009 WRMP 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 CIP projects under the 2009 WRMP Update would be developed in anticipation of unforeseen or unplanned future growth. Therefore, implementation of the 2009 WRMP Update would not be growth-inducing because it would not remove an impediment to growth.

Furthermore, construction of CIP projects under the 2009 WRMP Update would 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 2009 WRMP Update would not be growth-inducing because it would not foster substantial economic expansion or growth in the region.

5.4 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 4.10 of this PEIR provide a programmatic evaluation of the potentially significant environmental effects and corresponding mitigation/performance measures associated with implementation of the 2009 WRMP 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.

5.5 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;
- The project would involve a large commitment of nonrenewable resources;

- The project involves uses in which irreversible damage would result from any potential environmental accidents associated with the project; or
- The 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 2009 WRMP 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 2009 WRMP 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 for the reasons given in Section 5.2.5 above (refer to discussion of water supply) and Section 4.4 (Energy) of this PEIR. Nonetheless, construction and operations associated with implementation of the 2009 WRMP 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 2009 WRMP 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 4.10 (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.

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CHAPTER 6.0
PROJECT ALTERNATIVES

The California Environmental Quality Act (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 2009 WRMP Update and examines the potential environmental impacts associated with each alternative. The State 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] State 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] State 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] State CEQA Guidelines).

Based on the State CEQA Guidelines, the following alternatives to avoid or reduce significant project impacts were identified and are discussed in Section 6.2 below: No Project Alternative and Reduced Footprint Alternative.

6.1 PROJECT OBJECTIVES

As stated in Section 3.4.2 (Goals and Objectives, Project Description) of this PEIR, the goals and objectives of the 2009 WRMP Update include the following actions:

- **Update Planning Criteria**: Update the OWD Land Use Database to incorporate recent and future population projections and planned development projects. Review system performance criteria based upon planning criteria, and make recommendations for revised or new criteria, as required. Evaluate compliance of existing potable and recycled water distribution systems with established planning criteria.

- **Update Hydraulic Model:** Convert the 2002 hydraulic models into a new modeling program that incorporates OWD's Geographic Information Systems capabilities. Calibrate the hydraulic models to observed actual conditions utilizing data derived from the SCADA system.

- **Evaluate Existing Potable and Recycled Water Systems**: Make recommendations for improvements to correct deficiencies of existing systems, and to meet demands of the future planning area and identified area of influence based upon development patterns, types, location and timing.

- **Evaluate Future Potable and Recycled Water Systems**: Conduct additional hydraulic modeling for each pressure zone and system to analyze distribution system facilities under 6-year (2009-2015) and ultimate (2016-2030) demand conditions. Recommend future CIP projects to serve these conditions.

- **Update CIP:** Develop a phased implementation plan for recommended CIP projects, and estimated costs for identified projects. Incorporate water resource strategies, short-term implementation strategies, and infrastructure needs for the long-term strategies identified in OWD's IWRP.

6.2 ALTERNATIVES ANALYZED

This section presents an evaluation of two alternatives to the proposed 2009 WRMP 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 2009 WRMP Update, and an assessment of the degree to which the alternative would meet the goals and objectives of the 2009 WRMP 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 2009 WRMP Update.

Impact Analysis

The No Project Alternative would not necessarily prevent the implementation of the CIP projects listed in the 2009 WRMP Update. Without the 2009 WRMP 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. These impacts would 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 five objectives identified for the 2009 WRMP Update. Under this alternative, OWD would not be able to fulfill State, regional, and local polices which mandate the development of alternative water sources. 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 the following CIP projects located near sensitive biological resources: Res 640-3, Res 1655-1, Res 1090-2, Res 1296-4, Res 980-4, Res 860-1, Res 870-2, PS 978-2, PS 1296-2, and R2029.

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 meet four out of five objectives identified for the 2009 WRMP 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 2009 WRMP 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: Evaluate Existing Potable and Recycled Water Systems. OWD is required to fulfill State, regional, and local polices which mandate the development of alternative water sources. The CIP projects listed in the 2009 WRMP 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 2009 WRMP 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 2009 WRMP 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 eliminate, potential impacts to air quality and biological and cultural resources. However, this alternative would only achieve four of the stated five objectives of the 2009 WRMP Update.

CHAPTER 7.0
ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
AB	Assembly Bill
ACOE	U.S. Army Corps of Engineers
AMSL	above mean sea level
AP	Alquist-Priolo
APCD	San Diego Air Pollution Control District
AQIA	Air Quality Impact Analysis
ASTs	above-ground storage tanks
B.P.	Before Present
BLM	Bureau of Land Management
BMPs	Best Management Practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal Fire	California Department of Forestry and Fire Protection
Cal/ARP	California Accidental Release Prevention Program
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCAT	California Climate Action Team
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
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
CFCs	chlorofluorocarbons
CFR	Code of Federal Regulations
CH4	Methane
CHP	California Highway Patrol

CIP	Capital Improvement Program
CO	Carbon Monoxide
CO2	Carbon Dioxide
CO2e	CO2 equivalent
CPA	Community Plan Area
CPUC	California Public Utilities Commission
CRHR	California Register of Historic Resources
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
DEH	County of San Diego Department of Environmental Health
DHS	California Department of Health Services
DPLU	County of San Diego Department of Planning and Land Use
DU	Dwelling Units
EIR	Environmental Impact Report
ERP	Emergency Response Plan
ESA	Endangered Species Act
EUC	Eastern Urban Center
Fed/OSHA	federal Occupational Safety and Health Administration
FHA	Federal Highway Administration
GDP	General Development Plan
GHG	Greenhouse gases
GPA	General Plan Amendment
GPM	gallons per minute
GWP	global warming potential
HazMat	Hazardous Materials
HCFC-22	Chlorodifluoromethane
HCFCs	Hydrochlorofluorocarbons
HCP	habitat conservation plan
HFCs	hydrofluorocarbons
HIRT	Health Hazardous Incident Response Team
HMA	Habitat Management Area
HMBP	Hazardous Materials Business Plan
HRA	health risk assessment
I-805	Interstate 805
IWRP	Integrated Water Resources Plan
Km	kilometers
LOPS	Lower Otay Pump Station
$\mu g/m^3$	micrograms per cubic meter
MACT	Maximum Achievable Control Technology
Mg	millions of gallons
MGD	millions of gallons per day
MLD	Most Likely Descendent
MMT CO2e	million metric tons of CO2 equivalent
MND	Mitigated Negative Declaration
MSCPs	Multiple Species Conservation Programs
MW	megawatts
N2O	nitrous oxides
NAAQS	National Ambient Air Quality Standards
NAGPRA	Federal Native American Graves Protection and Repatriation Act

NAHC	Native American Heritage Commission
NCCP	natural communities conservation plan
NESHAPs	National Emissions Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NO	nitrogen oxide
NO2	nitrogen dioxide
NOP	Notice of Preparation
NOx	oxides of nitrogen
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
O3	ozone
OEHHA	California Office of Environmental Health Hazard Assessment
OES	County of San Diego Office of Emergency Services
OMCPA	Otay Mesa Community Planning Area
OWD	Otay Water District
OWTP	Otay Water Treatment Plant
Pb	Lead
PDFs	Project Design Features
PEIR	Program EIR
PFCs	perfluorocarbons
PM10	Respirable Particulate Matter
PM2.5	Fine Particulate Matter
ppm	parts per million
PRC	Public Resources Code
RACM	regulated asbestos-containing material
RAQS	San Diego County Regional Air Quality Strategy
RCRA	Resource Conservation and Recovery Act
REL	reference exposure level
REZ	Rezone
RfDs	ratio of calculated doses to acceptable or “reference” doses
RMPP	Risk Management and Prevention Program
RPO	Resource Protection Ordinance
RTP	Regional Transportation Plan
RWQCBs	Regional Water Quality Control Boards
SAMPs	Sub-Area Water Master Plans
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCIC	South Coastal Information Center
SCPs	Standard Construction Practices
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDAPCD	San Diego Air Pollution Control District
SDCGHGI	San Diego County Greenhouse Gas Inventory
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas and Electric Company
SDSU	San Diego State University
SF6	sulfur hexafluoride
SHPO	State Historic Preservation Office

SIP	State Implementation Plan
SO2	sulfur dioxide
SP	Specific Plan
SPAs	Specific Planning Areas
SPCC	Spill Prevention Control and Countermeasure
SR-94	State Route 94
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
T-BACT	Best Available Control Technology for Toxics
TM	Tentative Map
TPM	Tentative Parcel Map.
U.S.	United States
UBC	Uniform Building Code
UC	University of California
URF	unit risk factor”
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geologic Services
UST	Underground Storage Tank
VOC	volatile organic compounds
WRMP	OWD Water Resources Master Plan
WTP	Water Treatment Plan

CHAPTER 8.0
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CHAPTER 9.0
DISTRIBUTION

California Air Resources Board
California Department of Conservation, Division of Land Resource Protection
California Department of Fish & Game, South Coast Region
California Department of Health Services, Environmental Review Unit
California Department of Toxic Substances Control
California Department of Water Resources
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California Governor's Office of Planning & Research
California Lands Commission
California Office of Historic Preservation
California Resources Agency
California Water Resources Control Board
Caltrans, District 11
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City of San Diego Water Department
City of San Diego, Development Services Department
County of San Diego, Department of Planning & Land Use
County of San Diego, Supervisor Diane Jacob
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County Public Library, Rancho San Diego
County Public Library, San Ysidro Branch
Crest/Dehesa/Granite Hills/Harbison Canyon Community Planning Group
Helix Water District
Jamul Indian Village
Jamul/Dulzura Community Planning Group
Metropolitan Water District of Southern California
Native American Heritage Commission
Padre Dam Municipal Water District
Regional Water Quality Control Board
San Diego Archeological Society
San Diego Association of Governments
San Diego County Air Pollution Control District
San Diego County Water Authority
San Diego Gas and Electric
San Diego Public Library
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U.S. Army Corps of Engineers, San Diego Field Office
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U.S. Fish & Wildlife Service
Valle de Oro Community Planning Group