



DRAFT
REVISED PROGRAM ENVIRONMENTAL IMPACT REPORT
SCH # 2008052006

WSMP 2040

WATER SUPPLY MANAGEMENT PROGRAM 2040



EAST BAY MUNICIPAL UTILITY DISTRICT

DECEMBER 2011

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for the

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prepared by



EAST BAY MUNICIPAL UTILITY DISTRICT

With assistance from



Executive Summary	ES-1
1. Introduction	1-1
1.1 Scope of the Revised PEIR	1-1
1.2 Approach to Release and Circulation of the Draft Revised PEIR	1-2
1.3 Organization of the Draft Revised PEIR	1-2
2. Background on the WSMP 2040.....	2-1
2.1 Development of the WSMP 2040.....	2-1
3. Summary of the Supplemental Revisions to the 2009 PEIR.....	3-1
3.1 Additional Analysis	3-1
3.2 Potential Changes to the WSMP 2040	3-1
4. Supplemental Revisions to the Land Use and Recreation Analysis	4-1
4.1 Setting Discussion	4-1
4.2 Impacts Analysis.....	4-2
5. Supplemental Revisions to the Cultural Resources Analysis	5-1
5.1 Impacts Analysis.....	5-1
6. Supplemental Revisions to the Hazards Analysis	6-1
6.1 Setting Discussion	6-1
6.2 Impacts Analysis.....	6-1
7. Analysis of EBMUD Participation in the Los Vaqueros Reservoir Expansion	7-1
7.1 Description of Contra Costa Water District’s Los Vaqueros Reservoir Expansion	7-3
7.2 EBMUD Participation in the Los Vaqueros Reservoir Expansion	7-8
7.3 Summary of Impacts and Mitigation Measures Presented in CCWD’s Los Vaqueros Reservoir Expansion Project EIS/EIR	7-14
7.4 Program-Level Impact Analysis of the System Improvements Required for EBMUD Participation in Los Vaqueros Reservoir Expansion.....	7-18
8. Supplemental Revisions to the Cumulative Impacts Analysis	8-1
8.1 Cumulative Setting Discussion	8-1
9. Supplemental Revisions to Other Portions of the 2009 PEIR.....	9-1
9.1 Irreversible or Irrecoverable Commitment of Resources	9-1
9.2 Potentially Significant Environmental Impacts Identified in this Supplemental PEIR.....	9-1
9.3 Effects Found Not to Be Significant	9-2

Appendices

Appendix A: Correspondence from Silvia Burney, California Valley Miwok Tribe

Appendix B: Los Vaqueros Reservoir Expansion Technical Analysis

Appendix C: Contra Costa Water District Los Vaqueros Reservoir Expansion Project
EIS/EIR Impact and Mitigation Measures Summary Table

Executive Summary

The East Bay Municipal Utility District (EBMUD) has prepared this revision to the Program Environmental Impact Report (PEIR) developed in 2009 for the Water Supply Management Program (WSMP) 2040 (2009 PEIR). The WSMP 2040 is a program-level effort that estimates EBMUD's water supply needs over a thirty-year planning horizon and proposes a diverse portfolio of policy initiatives and potential projects to ensure that those needs can be met in dry years.

The WSMP 2040 is described in detail in the 2009 PEIR that EBMUD developed to analyze the potential impacts of the program and in the WSMP 2040 Plan that EBMUD also released in 2009. Those documents describe the nature and purpose of the WSMP 2040, detail the WSMP 2040 components, and discuss the potentially significant environmental impacts at a program level. As noted in these documents, the WSMP 2040 was intended to be a flexible and diverse program. The Response to Comments that EBMUD prepared in 2009 as part of the Final WSMP 2040 PEIR discusses the purpose of the WSMP 2040 in detail and details the steps in the development of the WSMP 2040 (See 2009 Final WSMP 2040 PEIR, pp. 2.1-1 through 2.1-6). This document is on the EBMUD website at the following link: <http://www.ebmud.com/our-water/water-supply/projects-and-long-term-planning/water-supply-management-program/water-supply-0>.

The portfolio of solutions that comprised the 2009 WSMP 2040 included increased conservation and provision of recycled water, as well as rationing and a mix of possible supplemental supply projects that can be adjusted and implemented in a step-wise manner over the next thirty years as necessary to respond to changes in demand, changes in supplies, and future uncertainties, including the potential for climate change effects on both supply and demand. In addition to including aggressive conservation goals and an increase in the provision of recycled water, the WSMP 2040 included a mix of possible supplemental supply projects intended to be pursued in progressive stages, with the projects involving the fewest regulatory and institutional challenges undergoing study in order to respond to water need in the short-term, while the other more complex, regional projects were to be pursued in the longer-term, beyond 2025, if the demand arises and other short-term projects do not provide sufficient yield to meet dry year needs.

In early 2011, following a court challenge, EBMUD was directed to revise the 2009 WSMP PEIR to address identified deficiencies in the environmental analysis. This document, the Revised PEIR, sets forth the required revisions.

In this document, EBMUD has included supplemental revisions to the analysis of the potential impacts that could result from a project to enlarge Pardee Reservoir. These revisions supplement the analysis in the 2009 WSMP 2040 PEIR to include:

- (1) a discussion of measures to mitigate impacts to native Miwok ancestral gathering places that would result if the Mokelumne Reservoir is inundated by the expansion of Pardee Reservoir;
- (2) a discussion of the impacts to recreational resources that would result from the inundation of the Middle Bar Run and measures to mitigate these impacts; and
- (3) a discussion of the potentially significant safety impacts that would result from the removal of the Middle Bar Bridge as an emergency evacuation route. In addition, the document includes sections updating the prior discussion of regulatory and administrative developments and ongoing efforts that could result in cumulative impacts to various resource areas.

This supplemental program-level examination of the Enlarge Pardee project has not changed the previous determination regarding the feasibility of this supplemental water supply option, although the other portions of this supplemental analysis have demonstrated that the Enlarge Pardee component option does not need to be included in the portfolio of options that could be pursued in the thirty-year planning horizon of the WSMP 2040.

The deficiencies identified by the court included the failure by EBMUD to analyze the potential to participate as a partner agency in a project being undertaken by Contra Costa Water District (CCWD) to expand their Los Vaqueros Reservoir, which is an above-ground, off-stream storage reservoir located in eastern Contra Costa County owned and operated by CCWD. CCWD is currently constructing an enlargement that will expand the reservoir's storage volume to 160,000 acre-feet.

This revision effort includes a full program-level examination of the possibility to participate in the Los Vaqueros expansion. In developing these revisions EBMUD conducted detailed discussions with CCWD staff and reviewed and is incorporating CCWD's recent environmental analysis of the impacts of expansion construction. The revisions also include additional program-level review of potential environmental impacts that could result from EBMUD use of a portion of the storage that would be available from the Los Vaqueros Reservoir expansion, and this analysis examines both the current effort that is being constructed and a potential future project to expand reservoir storage even further.

The program-level examination of EBMUD's ability to participate in the current Los Vaqueros Reservoir expansion demonstrates that this is a feasible supplemental water supply option that could provide some limited additional supplemental supplies and otherwise meet the WSMP 2040 program objectives. EBMUD staff will recommend that this potential project be included in the portfolio of potential supplemental supply options included in the WSMP 2040 and that the WSMP Plan be modified to include this option.

While the analysis of participation in the project to expand Los Vaqueros Reservoir demonstrates that it is possible for EBMUD to partner with CCWD on the current expansion effort, the analysis also demonstrates that there are significant uncertainties, both from an institutional perspective and a project-development, permitting and construction perspective, with regard to EBMUD's ability to participate in a future enlargement of the Los Vaqueros Reservoir capacity beyond the current 160,000 acre-foot enlargement. Participation in a future additional expansion of Los Vaqueros Reservoir thus should be considered as a potential supplemental supply option for study and implementation beyond the thirty-year planning horizon of the WSMP 2040.

The inclusion of the possible participation in the current expansion of Los Vaqueros Reservoir may allow the deferral of certain long-term supplemental supply project options that were a part of the WSMP 2040 portfolio beyond the 2040 planning horizon of the WSMP 2040 Plan. In particular, the potential project to enlarge Pardee Reservoir may be deferred consistent with the original objectives and design of the WSMP 2040. EBMUD staff will recommend the deferral of the Enlarge Pardee project beyond the thirty-year planning horizon of the Plan. EBMUD staff will recommend that the WSMP 2040 Plan be modified to reflect this change, and after the PEIR revisions are finalized, EBMUD will consider adopting a modified WSMP 2040 Plan that does not include the Enlarge Pardee component and adds a supplemental supply project component involving EBMUD participation in the current project to expand Los Vaqueros Reservoir.

In recognition of the broad nature of the Water Supply Management Program 2040 and the flexible and uncertain nature of the potential supplemental water supply projects included in the program, these revisions follow the approach of the 2009 PEIR and they are program-level in nature and provide a general discussion of the potential environmental impacts and mitigation measures. As set forth in detail in the 2009 PEIR, the WSMP 2040 is an overall program, and EBMUD is not making any commitment in this program to actually undertake any of the supplemental water supply project options that are included in the program.

EBMUD is seeking comments on these revisions by January 27, 2012 and will be holding three public meetings in January to take comments on this document. Comments should be directed via email to WSMP.Comments@EBMUD.com, or by mailing the comments to the following address:

WSMP Comments c/o
East Bay Municipal Utility District
Water Supply Improvements Division
375 Eleventh Street, MS 407
Oakland, California 94607

In accordance with CEQA Guidelines section 15088.5(f)(2), reviewers should limit their comments to the new material set forth in these revisions.

1. Introduction

In 2009, EBMUD finalized a Program Environmental Impact Report (PEIR) for the Water Supply Management Program (WSMP) 2040 after conducting a year-long public review process. The PEIR was challenged in court, and EBMUD has now prepared these draft revisions to the PEIR to address the deficiencies identified in the order issued by the Superior Court for the County of Sacramento in the matter of *Foothill Conservancy et al. v. East Bay Municipal Utility District*, Case No. 34-2010-80000491.

In a ruling issued on May 25, 2011, the court identified the following legal deficiencies in the 2009 PEIR prepared by EBMUD:

- (1) the failure to adequately formulate mitigation measures for the potentially significant impact to native Miwok ancestral gathering places that would result if the Mokelumne River is inundated by expansion of Pardee Reservoir;
- (2) the failure to adequately describe the Middle Bar Run as a recreational resource and analyze and mitigate impacts that would result if the Middle Bar Run is inundated by expansion of Pardee Reservoir;
- (3) the failure to adequately identify and mitigate the potentially significant safety impacts that might arise due to possible removal of the Middle Bar Bridge as an emergency evacuation route; and
- (4) the failure to prepare an adequate analysis of reasonable alternatives to the project, due to the EIR's failure to take into account the potentially significant impacts from inundation of the Middle Bar Run and Middle Bar Bridge, and failure to analyze and include participation in the Los Vaqueros Reservoir expansion as part of its consideration of alternatives to the Regional Upcountry water supply components.

The court did not find any other areas of the 2009 PEIR to be deficient.

1.1 Scope of the Revised PEIR

The discussion in this Revised PEIR is limited to the environmental impact areas and issues that were identified by the court, along with updates to describe administrative and other developments that have occurred since the 2009 PEIR was developed. In preparing this document, EBMUD has analyzed new information that was not available at the time that the Final PEIR was prepared, as well as new developments in applicable laws and regulations. Aside from the topics identified by the court and discussed in these revisions, the information reviewed by EBMUD and presented as part of the scoping for this document has not revealed any other significant new information, including any information that would show:

(1) that there is a potential for new program-level significant environmental impacts from the WSMP 2040 or from a new mitigation measure proposed to be implemented as part of this program-level review;

(2) that there is a potential for a substantial increase in the severity of the environmental impacts previously identified in the program-level review set forth in the 2009 PEIR; or

(3) that a feasible alternative or mitigation measure considerably different from others previously analyzed that would clearly lessen the program-level significant impacts of the WSMP 2040 that EBMUD has declined to adopt.

For this reason, recirculation of other portions of the 2009 PEIR is not needed and other portions of the PEIR analysis do not need to be revised.

1.2 Approach to Release and Circulation of the Draft Revised PEIR

On June 23, 2011, EBMUD released a Notice of Preparation (NOP) of a Draft Revised PEIR, including notice regarding three scoping meetings. The NOP invited agencies, interested groups and individuals to submit comments through the close of business on July 29, 2011, and after the close of the comment period, EBMUD released a Scoping Report in August 2011. This report is available on EBMUD's website at <http://ebmud.com/our-water/water-supply/long-term-planning/water-supply-management-program-2040>.

The NOP advised that the revision effort would be limited to the identified areas of deficiency, as well as any changes mandated by significant new information.

This Draft Revised PEIR is being released for review and comment through January 27, 2011. At the conclusion of the comment period, EBMUD will prepare written responses to comments received on the Draft Revised PEIR as well as any necessary changes to the analysis, and a Final Revised PEIR will be completed. EBMUD will then consider the previously prepared 2009 Final PEIR as revised by the Final Revised PEIR and will determine whether to re-certify the PEIR and approve the WSMP 2040 with any recommended revisions.

The 2009 Draft PEIR, Final PEIR, and all related documents are available for review on EBMUD's website at <http://ebmud.com/our-water/water-supply/long-term-planning/water-supply-management-program-2040> and at the EBMUD building at 375 Eleventh Street in Oakland, California. Copies are also available on CD-ROM in libraries as listed in the Notice of Availability crafted for the Draft Revised PEIR, which is posted on the above website.

1.3 Organization of the Draft Revised PEIR

The Revised PEIR is organized as follows:

- **Executive Summary:** this chapter briefly describes the WSMP 2040, explains why the Revised PEIR was prepared, and outlines the revisions to the 2009 PEIR that are presented in this Revised PEIR, particularly the additions to the analysis of the project to enlarge Pardee Reservoir and the new analysis of participation in the Los Vaqueros Reservoir Expansion. It also notes that, based on this analysis, changes can be made to the WSMP 2040 portfolio of programs and potential supplemental supply projects.
- **Chapter 1, Introduction:** this chapter describes the scope of the Revised PEIR as well as the approach to the release and circulation of the document.
- **Chapter 2, Background on the WSMP 2040:** this chapter details the development of the WSMP 2040 and selection of the portfolio policies and potential supplemental project options that comprise the WSMP 2040.
- **Chapter 3, Summary of the Supplemental Revisions to the 2009 PEIR:** this chapter summarizes the revisions to the PEIR set forth in Chapters 4 through 7 and the changes to the program that are possible based on the additional analysis of the potential participation in the expansion of Los Vaqueros Reservoir.
- **Chapter 4, Supplemental Revisions to the Land Use and Recreation Analysis:** this chapter presents the additions to the Land Use and Recreation setting, impacts and mitigation measures analysis presented in Sections 4.2.D and 5.2.D of the 2009 PEIR.
- **Chapter 5, Supplemental Revisions to the Cultural Resources Analysis:** this chapter presents the additions to the Cultural Resources analysis presented in Section 5.2.H of the 2009 PEIR, and sets forth additional mitigation measures to address impacts to Miwok willow gathering areas.
- **Chapter 6, Supplemental Revisions to the Hazards Analysis:** this chapter presents the additions to the Hazards setting and impacts and mitigation measures analysis that are presented in Sections 4.2.J and 5.2.J of the 2009 PEIR.
- **Chapter 7, Analysis of EBMUD Participation in the Los Vaqueros Reservoir Expansion:** this chapter presents a program-level analysis of the ability for EBMUD to participate in the Los Vaqueros Reservoir Expansion, which was not evaluated in the 2009 WSMP 2040 PEIR. It includes a summary of the Current and Future Expansion Options analyzed by CCWD in the Los Vaqueros Reservoir Expansion Project EIS/EIR that was certified in March 2010, as well as a program-level analysis of the impacts associated with new facilities that EBMUD would likely need to utilize the reservoir expansion opportunity.
- **Chapter 8, Supplemental Revisions to the Cumulative Impacts Analysis:** this chapter presents the revisions to the Cumulative Impacts Analysis presented in

- Chapter 8 of the 2009 PEIR. The changes update the discussion to recognize developments that have occurred since 2009.
- **Chapter 9, Supplemental Revisions to Other Portions of the 2009 PEIR:** this chapter presents additions to other sections of the 2009 PEIR that follow from the additional analysis set forth in the prior chapters.

2. Background on the WSMP 2040

EBMUD developed the WSMP 2040 in 2009 in order to identify and recommend solutions to meet EBMUD's dry-year water needs through 2040. The WSMP 2040 is a policy-level program and the 2009 PEIR and these revisions to the 2009 PEIR are intended to be program-level in nature. The WSMP 2040 is not a project or a definitive commitment to implement any particular supplemental water supply project. It is instead a plan that evaluates EBMUD's long-term future dry-year needs and sets forth a program of recommended solutions that may be used to meet this need. The WSMP 2040 includes new conservation and recycled water targets, along with rationing and supplemental supply project components that will allow the District to meet projected water demands through 2040. The broad mix of projects provides the ability to adjust implementation schedules and resource commitments, and there is no certainty that any particular project will be undertaken. The success of one project option could allow EBMUD to delay other project components, and by 2040, it is possible that some supplemental supply project components may not be constructed.

The WSMP 2040 is intended to build upon the programs and activities that were put in place by EBMUD as part of the Water Supply Management Program that it developed in the early 1990s. Details on the purpose and need for the WSMP 2040 and the existing EBMUD water supply system are set forth in Section 2.1 of the 2009 PEIR. Except as set forth in Chapter 3, Section 3.2, and in Chapter 7, the revisions to the PEIR analysis set forth in this document have not resulted in any recommended changes to the WSMP 2040 preferred portfolio of policies and project options.

2.1 Development of the WSMP 2040

2.1.1 Determining the Need for Water

The development of the WSMP 2040 began with a detailed study to determine the projected annual water demand in the EBMUD service area to the year 2040, along with a quantification of EBMUD's water supply need.

EBMUD projected water demands through 2040 using a land use-based approach, which employs a methodology that determines projected demands based primarily on local planning agency land use policies as embodied in adopted community general plans and subsequent amendments to these plans. This methodology generally yields more transparent and rigorous projections, because it reflects the policies and plans specific to each community in the service area, which are developed with public input and environmental documentation and are enacted consistent with Local Agency Formation Commission-approved boundaries and spheres of influence, which generally eliminate any overlap in the data.

Demand projections based on planned land uses reflect the vision of the communities and their residents regarding the growth in the communities over time. While these plans may be amended over time, they nonetheless provide a sound and predictable measure of water demand over a long-term planning horizon, and the methodology that EBMUD employs, which involves meetings with the agencies to discuss the timing and development of lands and future projections for changes, ensures that the projections appropriately incorporate long-term projections for both residential demands and non-residential demands resulting from changing commercial and industrial uses.

The District's 2040 Demand Study, which was completed in February 2009, updated the previous land use-based demand study conducted in May 2000 and included a thorough review of the assumptions and an analysis of changes in conditions during the intervening years between the 1996 base year of the prior study and the base year of the 2040 Demand Study. The 2040 Demand Study determined that there has been a shift in development patterns and policies in the EBMUD service area which has resulted in an increase in the demand projections. The observed trends include (1) a significant shift toward more high density residential, non-residential, and mixed-use development as promoted by regional and local planning policies and trends, including smart growth and transit-oriented development, and (2) new development exhibiting more water intensive use on a per-acre basis.

While the District has experienced a drought as well as a prolonged economic downturn that continues to impact the Bay Area since the 2040 Demand Study was prepared, the 2040 demand projections remain valid. Long-term water planning is based on demand projections in a 25- to 30-year horizon, and it is not reactive to short-term phenomena. The District has experienced both droughts and economic downturns in the past and has observed that their effect on demand was short term. The short-term timing of development and interim increases in demands may be slower than what was projected under the economic conditions in 2007, but, as has been shown in the past, short-term influences have not continued over longer water supply planning time frames.

The 2040 Demand Study projections are consistent with the recent observation that the overall trend in water consumption per capita has generally been declining since the 1970s and will continue to decline through the thirty-year period of the WSMP 2040.

There have been no changes in population projections that warrant any changes in projected demands at this time. The 2040 Demand Study referenced the population Projections 2000 population projections produced by the Association of Bay Area Governments (ABAG) projections, which were based on 2000 U.S. Census Bureau data. The analysis compared demand projections to ABAG's projected percent increases in population as a means of verifying the analysis. ABAG's most recent projections in 2009 have higher long-term population projections for the EBMUD service area than the

demand increases referenced in the 2040 Demand Study. ABAG will publish the next projections in 2013, and these will be based on the 2010 census data.

Based on the projected demands, EBMUD determined a projected Need for Water. The Need for Water is the additional water required to support projected levels of development in the service area through the year 2040 under the worst-case drought scenario. Future water need is the difference between the available supply and projected water demand during the worst case drought.

2.1.2 Development and Selection of the WSMP 2040 Portfolio of Components

As explained in Chapter 3 of the 2009 PEIR, the development and selection of components for potential inclusion in the WSMP 2040 began with a comprehensive range of options that the Board of Directors narrowed down through multiple stages of screening to evaluate the feasibility of these options during public workshops held in 2007 and 2008. The potential components that could assist in meeting dry-year demands were organized into four categories: Recycled and Raw Water, Conservation, Rationing, and Supplemental Supply. The Board of Directors held public workshops in 2007 and 2008 to evaluate the feasibility of individual components that would ultimately make up the larger portfolios, and following each Board of Directors workshop, the same material on component development and selection was presented and discussed with a Citizens Liaison Committee.

Recycled and Raw Water

The WSMP 2040 development process focused on determining a potential quantity of recycled water production that would supplement EBMUD's current commitments of 9.3 mgd through 2040. EBMUD created an initial list of recycled and raw water components in the following four categories:

- Committed projects
- Potential new projects within the EBMUD service area
- Potential partnerships with Upcountry agencies
- Potential partnerships with Sacramento area agencies

Potential projects considered included recycled water centralized treatment, satellite treatment, and raw water projects. An initial list of 27 recycled and raw water components was identified by EBMUD and carried forward for further evaluation. Typical recipients of recycled water include oil refineries, golf courses, cemeteries, and public housing.

Multiple uses of recycled water were explored. Consistent with the WSMP 2040 objectives and purposes, the WSMP 2040 ultimately established a target goal of implementing an additional 11 mgd of recycled water projects, rather than committing to

implementation of specific individual projects. In the future, potential projects would be implemented based on identified criteria, including proximity, cost, and whether there would be adequate volume for particular projects.

Conservation

EBMUD assessed the potential for conservation at various levels, ranging from natural savings (i.e., water savings derived from changes in the plumbing code) to a maximum voluntary program. EBMUD compiled an initial list of about 100 conservation measures and eliminated those not suited for its service area. The remaining conservation measures were then qualitatively evaluated for their ability to meet the following objectives:

- Technology/Market Maturity
- Service Area Match
- Customer Acceptance/Equity
- Relative Effectiveness of Measure Available

The result was a list of 53 conservation measures for further consideration, exceeding the number of California Water Conservation Council Best Management Practices. EBMUD then estimated the unit cost and water savings for each conservation measure. EBMUD then clustered these measures by their conservation levels to create five conservation levels (A-E), with each successive level of conservation providing increasing water savings, carried forward for screening. The most aggressive economically feasible level (Level D) was selected for inclusion in the WSMP 2040. With this level of conservation, the WSMP 2040 would target an additional conservation water savings of 39 mgd between 2010 and 2040, for a projected year 2040 conservation savings of 62 mgd compared to the baseline year of 1995.

EBMUD's conservation program meets the requirements of The Water Conservation Act of 2009 (SB x7-7) and exceeds per capita water use target methods established under the law.

Rationing

In addition to evaluating various potential recycled water projects and conservation programs, EBMUD developed a range of rationing scenarios. EBMUD initially considered five target levels of rationing (0%, 10%, 15%, 20%, and 25%) that represented average levels across all customer classes (e.g., single-family residential, irrigation). During this exercise, analysis demonstrated that it would be difficult and economically burdensome to target a 25% rationing level in the future due to demand hardening, particularly in light of the increased conservation targeted as part of the program, as well as other factors. The 0% rationing level was also removed from further

consideration, because it was determined that it would be appropriate to seek some level of rationing during times of prolonged drought. As a result, EBMUD considered three levels of rationing (10%, 15%, and 20%) during the screening process. EBMUD initially selected a target level of 10% rationing for the WSMP 2040, but this was subsequently revised upward to a target level of no more than 15%.

Potential Supplemental Supply Projects

The conservation and recycled water programs, as well as the targeted level of rationing included in the WSMP 2040 alone would not be sufficient to meet 2040 service area demands through the year 2040 during a prolonged drought. Recognizing that supplemental sources beyond those already constructed or planned would be necessary to ensure reliability during a multiple year drought, EBMUD compiled its list of supplemental supply components based on projects considered in prior water supply planning efforts conducted by EBMUD and other water agencies. This list included supplemental supply components that satisfied the following criteria:

- Passed early screening in the development of the prior WSMP
- Have been actively under consideration by the District
- Passed a first-stage conceptual review during development of the Freeport Regional Water Project (FRWP)
- Projects that are now viable because of the ability to use the new facilities constructed for the FRWP which include an intake on the Sacramento River and connection to EBMUD's Mokelumne Aqueducts

The result was a set of 24 potentially feasible supplemental supply components in four different geographical areas. EBMUD refined this initial list following a public Board of Directors workshop for a final list of 25 supplemental supply components for further consideration. Table 2-1 lists the supplemental supply components ultimately carried forward for screening.

Table 2-1: Supplemental Supply Components Carried Forward for Screening

STATEWIDE	UPCOUNTRY	CENTRAL VALLEY	LOCAL (EAST BAY)
Temperance Flat Reservoir Sites Reservoir Enlarge Los Vaqueros Reservoir Semitropic Groundwater Bank	Enlarge Pardee Reservoir Enlarge Camanche Reservoir Enlarge Lower Bear Reservoir Middle Bar Reservoir Inter-Regional Conjunctive Use Project (IRCUP)	Groundwater Banking/Exchange (San Joaquin Basin) Groundwater Banking/Exchange (Sacramento Basin) Duck Creek Reservoir Bixler/Delta Diversion	Kellogg Reservoir Buckhorn Canyon Reservoir Cull Canyon Reservoir Curry Canyon Reservoir Bollinger Canyon Reservoir Bayside Groundwater Project – Phase 2 Regional Desalination

STATEWIDE	UPCOUNTRY	CENTRAL VALLEY	LOCAL (EAST BAY)
			Low Energy Application for Desalination (LEAD) at C&H Sugar Off-Shore Desalination Fog Capture Water Bags
Water Transfers (Short- or Long-Term)			

As part of the development of this initial list of potential supplemental supply components, EBMUD also reviewed the projects that were evaluated and eliminated during the alternatives screening process for the FRWP to confirm that they should also be excluded from consideration in developing the WSMP 2040. Table 2-2 presents the supplemental supply projects that EBMUD reviewed and determined should continue to be excluded from further analysis.

Table 2-2: Supplemental Supply Projects Considered and Excluded

Alamo Creek Reservoir	Kirker Reservoir	Tassajara Reservoir	Tanker Transport of Canadian Water Supplies
Bailey Road Reservoir	Enlarge Lafayette Reservoir	Tice Valley Reservoir	North Fork Stanislaus River Supply
Bolinas Reservoir	Mitchell Canyon Reservoir	Enlarge Upper San Leandro Reservoir	South Bay Aqueduct Intertie
Enlarge Briones Reservoir	Montezuma Hills Reservoir	Enlarge San Pablo Reservoir	Tuolumne Hetch Hetchy Intertie
Upper Buckhorn Reservoir	Morningside Reservoir	Bixler Groundwater Storage	Yuba River Water by Barge
Cañada del Cierbo Reservoir	Nichols Reservoir	Mokelumne River Salt Spring Reservoir	Cosumnes River Source
Enlarge Chabot Reservoir	Pinole Reservoir	Watershed Cloud Seeding	Iceberg Source
Clay Station Reservoir	Railroad Flat Reservoir	Mokelumne River	Auburn Dam
Kaiser Reservoir	Rodeo Reservoir	Devil's Nose Supply	
Upper Kaiser Reservoir	San Leandro Reservoir		
	Sidney Flat Reservoir		

Component Screening

EBMUD developed a robust set of criteria to screen the identified possible supplemental supply project options, as well recycled and raw water program options, and possible conservation levels. The following broad criteria categories were used to evaluate the components according to the WSMP 2040 planning objectives:

- Operations, Engineering, Legal, and Institutional
- Economic Planning
- Public Health, Safety, and Community
- Environmental

For each of these planning objectives, EBMUD developed overarching goals, accompanied by both exclusion and evaluation criteria to measure the ability to achieve the goals. Table 2-2 on page 2-3 of the 2009 WSMP 2040 illustrates this approach and sets forth the exclusion and evaluation criteria. EBMUD used the exclusion criteria in its first stage of screening to eliminate those components that demonstrated “fatal flaws” under any of the four planning objectives. The seven supplemental supply components set forth in Table 2-3 below were excluded for failure to satisfy Operations, Engineering, Legal, and Institutional criteria. All of the statewide components excluded during this first-stage screening were in early levels of development, and they were excluded because EBMUD lacked adequate information to determine if they would meet projected water demands through 2040. In the time period since the component screening process was undertaken, plans to expand Los Vaqueros Reservoir have moved forward and Contra Costa Water District has completed environmental documents for this project. Technological uncertainties continue to warrant exclusion of the remaining components, but EBMUD has now conducted a program-level review of the ability to participate in the enlargement of Los Vaqueros Reservoir, and this review is included in Chapter 7, and it incorporates analysis by the project sponsors that was finalized in 2010.

Table 2-3: Components Originally Excluded During Screening

STATEWIDE (CALFED)	LOCAL (EAST BAY)
Temperance Flat Reservoir Sites Reservoir Enlarge Los Vaqueros Reservoir	Kellogg Reservoir Off-Shore Desalination Fog Capture Water Bags

EBMUD used the evaluation criteria to conduct a second-stage screening of the remaining components. These criteria served as a menu of possible criteria, as not all criteria applied to all components. EBMUD evaluated each component according to its ability to satisfy the applicable criteria, and EBMUD also estimated the cost of each component screened during the second stage of screening. This exercise estimated the dry year yield, capital costs, operations and maintenance costs, and total energy use for each component to determine a dry year unit cost (\$/acre-foot dry yield).

The second-stage screening resulted in the elimination of the components presented in Table 2-4.

Table 2-4: Components Eliminated in Second-Stage Screening

SUPPLEMENTAL SUPPLY	POTENTIAL PARTNERSHIPS	CONSERVATION
Semitropic Groundwater Bank Bixler/Delta Diversion Duck Creek Reservoir Bollinger Canyon Reservoir	Amador Water Agency Jackson Valley Irrigation Districts & Amador County Wastewater Agencies	Natural Savings (A)

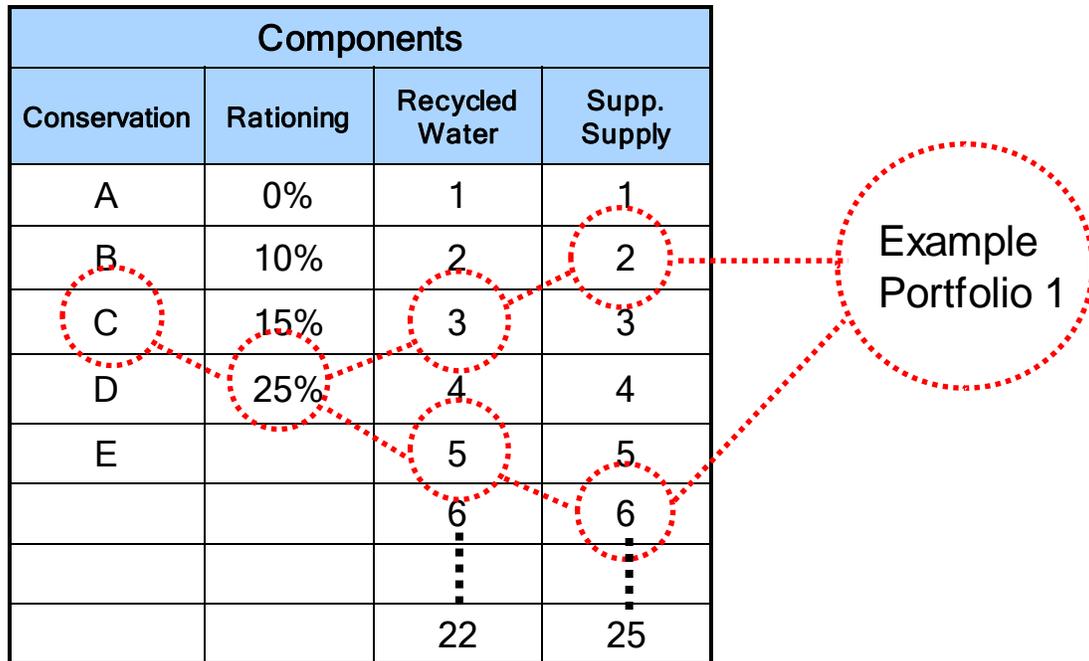
SUPPLEMENTAL SUPPLY	POTENTIAL PARTNERSHIPS	CONSERVATION
Cull Canyon Reservoir Curry Canyon Reservoir Enlarged Camanche Reservoir Middle Bar Reservoir	Jackson Valley Irrigation Districts & Amador Water Agency / Future Joint Lake Camanche WWTP Woodbridge Irrigation District	

At the conclusion of this process, a number of potential supplemental supply projects remained, and these were examined in detail in the 2009 PEIR.

2.1.3 Portfolio Development and Selection Process

EBMUD used the results of the public process that it undertook to screen possible program components for the WSMP 2040 to assemble portfolios from viable components. These portfolios included variable levels of conservation, recycled water and rationing, as well as supplemental supply options that could be used to ensure that the remaining Need for Water could be met. Figure 2-1 illustrates this approach.

Figure 2-1: Portfolio Development Approach



NOTE: Figure 2-1 is a conceptual illustration of the portfolio development process. EBMUD eliminated 0% rationing and narrowed the conservation levels under consideration prior to portfolio development.

EBMUD initially developed 11 portfolio themes and presented these at a public Board of Directors Workshop in 2008. Based on feedback provided at this meeting, EBMUD expanded the list of initial portfolios to 14 and then conducted modeling to determine the yield (million gallons per day) associated with each individual component and portfolio as a whole.

EBMUD then evaluated the 14 portfolios using a select number of the evaluation criteria developed to screen components under each of the four planning objectives.

The portfolio screening process identified five portfolios warranting further evaluation, and these five portfolios were ultimately included in the 2009 PEIR as the Alternative Portfolios (A-E). From these, the Board of Directors developed a Preferred Portfolio that forms the basis of the WSMP 2040 that was examined by the Board of Directors and is the subject of the PEIR.

Except as described in Chapter 3, the supplemental analysis set forth in this document does not indicate that the Preferred Portfolio should be changed or that other alternative portfolios analyzed in the 2009 PEIR are preferable or would better meet the program objectives.

3. Summary of the Supplemental Revisions to the 2009 PEIR

3.1 Additional Analysis

Chapter 4, Section 4.1 sets forth supplemental revisions to the section of the 2009 PEIR detailing the land use and recreation setting. Chapter 4, Section 4.2 sets forth supplemental revisions to the section of the 2009 PEIR providing the land use and recreation impact analysis. Revisions describe the uses of the Middle Bar Run and provide an analysis of the recreational impacts that could result if a project to enlarge Pardee Reservoir is pursued in the future.

Chapter 5, Section 5.1 sets forth supplemental revisions to the section of the 2009 PEIR providing cultural resources impact analysis. Revisions set forth potential mitigation measures to address impacts to Miwok ancestral gathering sites that could result if the project to enlarge Pardee Reservoir is pursued in the future.

Chapter 6, Section 6.1 sets forth supplemental revisions to the section of the 2009 PEIR detailing the categories of hazards. Chapter 6, Section 6.2 sets forth supplemental revisions to the section of the 2009 PEIR analyzing impacts related to hazards. The revisions expand the discussion of the setting to further describe how evacuation and emergency access is accommodated via use of the Middle Bar Bridge crossing of the Mokelumne River and include an analysis of the potential impairment of evacuation and emergency access along Gwin Mine Road and Middle Bar Road which could result if the access provided by the bridge is eliminated. Measures to mitigate this potential impact are also presented in Section 6.2.

Chapter 7 sets forth an analysis of the environmental impacts of the expansion of Los Vaqueros Reservoir and EBMUD's potential participation in both the existing expansion project and a possible further future expansion that was analyzed in the EIS/EIR prepared for the project by its sponsors.

Chapter 8 sets forth revisions to the section of the 2009 PEIR analyzing cumulative impacts. These revisions update the information that has changed since the development of the 2009 PEIR.

Chapter 9 discusses supplemental revisions to other sections of the 2009 PEIR that follow from the additional analysis set forth in the prior chapters.

3.2 Potential Changes to the WSMP 2040

As detailed in Chapter 7 of this Revised PEIR, EBMUD has evaluated the potential participation in the expansion of Los Vaqueros Reservoir and has determined that the current expansion from a capacity of 100 thousand acre-feet (TAF) to 160 TAF may

provide a viable opportunity for EBMUD to obtain some supplemental dry-year storage, although operational changes would be necessary and there would be additional costs involved in securing supplies to store in the reservoir and in constructing facilities to transmit and treat the water.

Based on the analysis, EBMUD has determined that it is possible to revise the WSMP 2040 to include participation in the current Los Vaqueros Reservoir Expansion in the portfolio of possible supplemental supply project options that could be implemented in the future to meet EBMUD's dry year water needs. Combined with all the other elements of the original WSMP 2040 portfolio, this new supplemental supply option may allow the deferral of other longer-term supplemental supply project options in the WSMP 2040 Preferred Portfolio, including the project to enlarge Pardee Reservoir.

Because EBMUD's dry-year needs are projected to increase over the 30-year planning period of the WSMP 2040, the WSMP 2040 included a mix of short-term and long-term supplemental supply project options which are intended to be pursued on multiple, parallel tracks in a step-wise fashion. Projects have inherent scalability, as well as varying developmental and institutional uncertainties, and a diverse mix of potential projects was included to ensure that the expected dry-year need could be met even if particular projects proved to be infeasible or incapable of yielding the projected levels of supplemental supplies. The mix was separated, however, into shorter-term projects that would be less complex and could be implemented more quickly and longer-term projects involving institutional and regulatory complexities. Potential timelines showing this scalability and step-wise manner of project implementation are included on pages 2-10 and 2-14 of the 2009 WSMP 2040, and as noted in these pages, the project to enlarge Pardee Reservoir was originally included, along with a regional desalination effort and other regional upcountry projects, in the 2009 WSMP 2040 and 2009 PEIR analysis as a longer-term option that EBMUD could consider pursuing as demands increased in the future beyond 2025.

The analysis conducted for the 2009 WSMP 2040 indicates that there may be a remaining long-term Need for Water beyond the year 2020 after identified short-term supplemental supply options, including water transfers and expansion of the Bayside Groundwater project, have been fully explored. This analysis has not changed. However, if the potential participation in the existing project to expand Los Vaqueros is included in the supplemental supply project options in the WSMP 2040, the mix of supplemental supply projects and possible yields from these potential projects increases.

The result of this addition of the current expansion of Los Vaqueros Reservoir to the supplement supply project options is that it is possible to move some of the longer term projects that could help EBMUD meet its projected Need for Water out beyond the planning horizon of the thirty-year program set forth in the WSMP 2040.

The project to enlarge Pardee Reservoir could be deferred beyond the 30-year planning horizon of the WSMP 2040, and it is possible that EBMUD may be able to defer other longer-term projects that have been found to be feasible, but involve significant uncertainties and institutional complexities, including participation in an expansion of Los Vaqueros Reservoir beyond the present 160 TAF enlargement.

Chapter 7 describes the Los Vaqueros Reservoir Expansion and notes that the possible future effort to further increase the reservoir capacity to 275 TAF has many associated uncertainties, including uncertainties with respect to costs, water availability, potential water quality issues, and available yield. The associated uncertainties, institutional and developmental hurdles, and high but speculative possible yield of this project warrant its consideration as a longer-term option, to be pursued, if at all, beyond the 30-year planning horizon of the WSMP 2040.

Table 3-1 presents a summary of the impacts and mitigation measures identified for the new facilities required for EBMUD participation in the Los Vaqueros Reservoir Expansion.

A summary of impacts and mitigation measures for other components of the WSMP 2040 is presented in Table 1-1 of the 2009 PEIR. In addition to the discussion as presented in Table 3-1, modifications of and/or additions to Table 1-1 of the 2009 PEIR are noted in Chapter 9, Section 9.2 of this Revised PEIR.

Table 3-1: Summary of Impacts and Mitigation Measures Resulting from the New Facilities Required for EBMUD Participation in the Los Vaqueros Reservoir Expansion					
IMPACT	TREATED WATER – BOYD ROAD INTERTIE OPTION	TREATED WATER – NEW INTERTIE OPTION	UNTREATED WATER OPTION	FUTURE EXPANSION OPTION	MITIGATION MEASURES
5.2.A-1: Potential to degrade water quality from construction	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.A-1a: Comply with State NPDES general construction permit.
5.2.A-2: Potential to degrade water quality from waste discharge	No Impact	No Impact	LTS	LTS	--
5.2.A-7: Potential alteration of the existing drainage pattern or contribution to existing local or regional flooding	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.A-7: Comply with NPDES general construction permit requirements including preparation and implementation of an SWPPP with Best Practices for control of storm water runoff.
5.2.B-1: Potential exposure of people or structures to geologic and seismic hazards	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.B-1a: Complete project-specific geologic and geotechnical studies and implement recommendations. Mitigation Measure 5.2.B-1b: Update the EBMUD earthquake preparedness and emergency response program.
5.2.B-2: Potential erosion and loss of topsoil during construction	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.B-2: Implement Stormwater Pollution Prevention Plan (SWPPP).

LTS = Less than Significant; LTSM = Less than Significant with Mitigation; PS = Potentially Significant

Table 3-1: Summary of Impacts and Mitigation Measures Resulting from the New Facilities Required for EBMUD Participation in the Los Vaqueros Reservoir Expansion

IMPACT	TREATED WATER – BOYD ROAD INTERTIE OPTION	TREATED WATER – NEW INTERTIE OPTION	UNTREATED WATER OPTION	FUTURE EXPANSION OPTION	MITIGATION MEASURES
5.2.C-4: Potential disturbance to or loss of special-status reptiles and amphibians, and their habitat or critical habitat	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.C-4a: Conduct habitat assessment. Mitigation Measure 5.2.C-4b: Conduct pre-construction surveys. Mitigation Measure 5.2.C-4c: Avoid critical habitat and areas with special-status reptiles and amphibians, or implement measures to minimize impacts.
5.2.C-5: Potential disturbance to or loss of nesting birds	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.C-5a: Conduct habitat assessment and surveys. Mitigation Measure 5.2.C-5b: Avoid construction during nesting season or conduct additional surveys. Mitigation Measure 5.2.C-5c: Establish a buffer zone around nests during construction. Mitigation Measure 5.2.C-5d: Monitor active nests for bird activity.

LTS = Less than Significant; LTSM = Less than Significant with Mitigation; PS = Potentially Significant

Table 3-1: Summary of Impacts and Mitigation Measures Resulting from the New Facilities Required for EBMUD Participation in the Los Vaqueros Reservoir Expansion

IMPACT	TREATED WATER – BOYD ROAD INTERTIE OPTION	TREATED WATER – NEW INTERTIE OPTION	UNTREATED WATER OPTION	FUTURE EXPANSION OPTION	MITIGATION MEASURES
5.2.C-6: Potential disturbance to or loss of special-status bat species and roosting habitat	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.C-6a: Conduct pre-construction surveys. Mitigation Measure 5.2.C-6b: Avoid active maternity roosts. Mitigation Measure 5.2.C-6c: Evict bats prior to demolition activities. Mitigation Measure 5.2.C-6d: Create replacement roosts.
5.2.C-7: Potential disturbance to or loss of other special-status mammals	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.C-7a: Conduct a habitat assessment. Mitigation Measure 5.2.C-7b: Conduct pre-construction surveys. Mitigation Measure 5.2.C-7c: Avoid special-status mammal habitat; if avoidance is not feasible, then consult with USFWS and CDFG to determine mitigation measures.

LTS = Less than Significant; LTSM = Less than Significant with Mitigation; PS = Potentially Significant

Table 3-1: Summary of Impacts and Mitigation Measures Resulting from the New Facilities Required for EBMUD Participation in the Los Vaqueros Reservoir Expansion

IMPACT	TREATED WATER – BOYD ROAD INTERTIE OPTION	TREATED WATER – NEW INTERTIE OPTION	UNTREATED WATER OPTION	FUTURE EXPANSION OPTION	MITIGATION MEASURES
5.2.D-1: Potential reduction of agricultural productivity and conversion of farmland to non-agricultural uses	No Impact	No Impact	No Impact	No Impact	--
5.2.D-2: Potential impairment of recreation facilities and activities	LTSM	LTSM	LTS	LTS	Mitigation Measure 5.2.D-2a: Repair and reopen affected recreational facilities.
5.2.E-1: Potential reduction of the number or available width of travel lanes on roads from construction, resulting in temporary disruption of traffic flows, increases in traffic congestion, and access to adjacent land uses for both general and emergency access	LTSM	LTSM	LTS	LTSM	Mitigation Measure 5.2.E-1: Prepare and implement a traffic control plan.
5.2.E-2: Potential short-term increases in vehicle trips during construction	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.E-2: Schedule construction truck trips to avoid peak traffic hours.
5.2.E-3: Potential to generate demand for parking spaces for worker vehicles	LTS	LTS	LTS	LTS	--

LTS = Less than Significant; LTSM = Less than Significant with Mitigation; PS = Potentially Significant

Table 3-1: Summary of Impacts and Mitigation Measures Resulting from the New Facilities Required for EBMUD Participation in the Los Vaqueros Reservoir Expansion

IMPACT	TREATED WATER – BOYD ROAD INTERTIE OPTION	TREATED WATER – NEW INTERTIE OPTION	UNTREATED WATER OPTION	FUTURE EXPANSION OPTION	MITIGATION MEASURES
5.2.E-4: Potential increase in wear and tear on designated haul routes from construction vehicles	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.E-4: Conduct pre-construction survey of road conditions.
5.2.E-5: Potential to temporarily disrupt bus service along proposed pipeline corridors during construction	LTSM	LTSM	LTSM	No Impact	Mitigation Measure 5.2.E-5: Relocate bus stops or detour bus routes.
5.2.F-1: Potential to conflict with, or obstruct implementation of, applicable air quality plans	LTS	LTS	LTS	LTS	--
5.2.F-2: Potential to violate an air quality standard or contribute substantially to an existing or projected air quality violation	PS	PS	PS	PS	Mitigation Measure 5.2.F-2: Comply with all requirements of Mitigation Measures 5.2.F-2a, 5.2.F-2b, 5.2.F-2c of the 2009 PEIR.
5.2.F-3: Potential for a cumulatively considerable net increase of criteria pollutants for which the region is in nonattainment under an applicable national or State ambient air quality standard	PS	PS	PS	PS	Mitigation Measure 5.2.F-3: Implement Mitigation Measures 5.2.F-2a, 5.2.F-2b, 5.2.F-2c of the 2009 PEIR.

LTS = Less than Significant; LTSM = Less than Significant with Mitigation; PS = Potentially Significant

Table 3-1: Summary of Impacts and Mitigation Measures Resulting from the New Facilities Required for EBMUD Participation in the Los Vaqueros Reservoir Expansion

IMPACT	TREATED WATER – BOYD ROAD INTERTIE OPTION	TREATED WATER – NEW INTERTIE OPTION	UNTREATED WATER OPTION	FUTURE EXPANSION OPTION	MITIGATION MEASURES
5.2.F-4: Potential exposure of sensitive receptors to substantial pollutant concentrations	PS	PS	PS	PS	Mitigation Measure 5.2.F-4: Implement Mitigation Measure 5.2.F-2 above, and Mitigation Measure 5.2.F-4b and 5.2.F-4c from the 2009 PEIR.
5.2.F-5: Potential exposure of sensitive receptors to substantial CO concentrations	LTS	LTS	LTS	LTS	--
5.2.F-6: Potential creation of objectionable odors affecting a substantial number of people	LTS	LTS	LTS	LTS	--
5.2.F-7: Potential to generate short-term and temporary GHG emissions during construction of the proposed project	PS	PS	PS	PS	Mitigation Measure 5.2.F-2: Implement Mitigation Measures 5.2.F-2b and 5.2.F-2c from Section 5.2.F Air Quality of the 2009 PEIR.
5.2.F-8: Potential to generate long-term GHG emissions due to operational activities associated with the proposed project	LTS	LTS	LTS	LTS	--

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Table 3-1: Summary of Impacts and Mitigation Measures Resulting from the New Facilities Required for EBMUD Participation in the Los Vaqueros Reservoir Expansion

IMPACT	TREATED WATER – BOYD ROAD INTERTIE OPTION	TREATED WATER – NEW INTERTIE OPTION	UNTREATED WATER OPTION	FUTURE EXPANSION OPTION	MITIGATION MEASURES
5.2.G-1: Potential exposure of sensitive receptors to noise levels in excess of the applicable noise standards and/or result in a noticeable increase in ambient noise levels from short-term construction activities	PS	PS	PS	PS	Mitigation Measure 5.2.G-1a: Avoid siting proposed construction activities in close proximity to noise-sensitive land uses. Mitigation Measure 5.2.G-1b: Implement measures to reduce short-term construction noise levels. <i>For the Future Expansion Option Only:</i> Mitigation Measure 5.2.G-1c: Provide public notice of proposed activities and provide noise shielding to the extent feasible.
5.2.G-2: Potential exposure of noise-sensitive receptors to noise levels in excess of the applicable noise standards and/or result in a noticeable increase in ambient noise levels from long-term operational activities	PS	PS	No Impact	PS	Mitigation Measure 5.2.G-2a: Avoid siting proposed facilities in close proximity to noise sensitive land uses. Mitigation Measure 5.2.G-2b: Implement measures to reduce long-term operational related noise levels.

LTS = Less than Significant; LTSM = Less than Significant with Mitigation; PS = Potentially Significant

Table 3-1: Summary of Impacts and Mitigation Measures Resulting from the New Facilities Required for EBMUD Participation in the Los Vaqueros Reservoir Expansion

IMPACT	TREATED WATER – BOYD ROAD INTERTIE OPTION	TREATED WATER – NEW INTERTIE OPTION	UNTREATED WATER OPTION	FUTURE EXPANSION OPTION	MITIGATION MEASURES
5.2.G-3: Potential for noticeable increase in traffic noise (3 dB or greater) along roadways designated for hauling construction materials	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.G-3a: Avoid designating construction haul routes on local roadways with adjacent noise-sensitive land uses. Mitigation Measure 5.2.G-3b: Implement measures to reduce construction-generated traffic noise levels at existing noise-sensitive receptors.
5.2.G-4: Potential exposure of sensitive receptors to excessive ground-borne noise and vibration levels (e.g., exceed FTA, Caltrans, and local guidelines)	PS	PS	PS	PS	Mitigation Measure 5.2.G-4a: Avoid siting proposed construction activities in close proximity to vibration-sensitive land uses. Mitigation Measure 5.2.G-4b: Implement measures to reduce construction-generated vibration levels from construction activities at existing vibration-sensitive receptors.

LTS = Less than Significant; LTSM = Less than Significant with Mitigation; PS = Potentially Significant

Table 3-1: Summary of Impacts and Mitigation Measures Resulting from the New Facilities Required for EBMUD Participation in the Los Vaqueros Reservoir Expansion

IMPACT	TREATED WATER – BOYD ROAD INTERTIE OPTION	TREATED WATER – NEW INTERTIE OPTION	UNTREATED WATER OPTION	FUTURE EXPANSION OPTION	MITIGATION MEASURES
5.2.H-1: Potential to alter or damage known or unrecorded cultural resources, including human remains, during construction	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.H-1a: Perform a record search at the appropriate information center and cultural and architectural resource surveys, and document results. Mitigation Measure 5.2.H-1b: Develop a plan to manage the discovery of as-yet unknown cultural resources. Mitigation Measure 5.2.H-1c: Avoid disturbance to human remains. Mitigation Measure 5.2.H-1d: Prepare a Data Recovery Plan.
5.2.I-1: Potential to adversely affect the existing visual character and scenic vistas or resources	LTS	LTS	LTSM	LTSM	Mitigation Measure 5.2.I-1: Integrate above-ground structures with the surrounding landscape.
5.2.I-2: Potential to increase light and glare	--	--	--	LTSM	Mitigation Measure 5.2.I-2: Incorporate design elements to reduce light and glare.
5.2.J-1: Potential exposure to uncontrolled releases of hazardous materials	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.J-1: Enforce on-site hazardous materials handling rules.

LTS = Less than Significant; LTSM = Less than Significant with Mitigation; PS = Potentially Significant

Table 3-1: Summary of Impacts and Mitigation Measures Resulting from the New Facilities Required for EBMUD Participation in the Los Vaqueros Reservoir Expansion

IMPACT	TREATED WATER – BOYD ROAD INTERTIE OPTION	TREATED WATER – NEW INTERTIE OPTION	UNTREATED WATER OPTION	FUTURE EXPANSION OPTION	MITIGATION MEASURES
5.2.J-2: Potential exposure of construction workers to contaminated soil and water	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.J-2: Conduct environmental site assessments and remediation.
5.2.J-3: Potential exposure to risk of wildland fires	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.J-3a: Implement fire control plans. Mitigation Measure 5.2.J-3b: Implement EBMUD’s Fire Management Plan.
5.2.K-1: Potential temporary damage to or disruption of existing regional and local public utilities and impacts related to the relocation of utilities	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.K-1a: Notify neighbors of potential utility service disruption. Mitigation Measure 5.2.K-1b: Locate utility lines and confirm utility line information prior to excavation and reconnect utilities promptly. Mitigation Measure 5.2.K-1c: Safeguard employees from potential accidents related to underground utilities. Mitigation Measure 5.2.K-1d: Prepare and implement an emergency response plan. Mitigation Measure 5.2.K-1e: Coordinate final construction plans with affected utilities.

LTS = Less than Significant; LTSM = Less than Significant with Mitigation; PS = Potentially Significant

Table 3-1: Summary of Impacts and Mitigation Measures Resulting from the New Facilities Required for EBMUD Participation in the Los Vaqueros Reservoir Expansion

IMPACT	TREATED WATER – BOYD ROAD INTERTIE OPTION	TREATED WATER – NEW INTERTIE OPTION	UNTREATED WATER OPTION	FUTURE EXPANSION OPTION	MITIGATION MEASURES
5.2.K-2: Potential to increase short-term demand for police and fire protection services	LTS	LTS	LTS	LTS	--
5.2.K-3: Potential temporary adverse effect on solid waste landfill capacity	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.2.K-3: Waste Reduction Measures.
5.2.K-4: Potential for construction-related energy use and potential to increase long-term energy use during operation	LTSM	LTSM	LTSM	LTSM	Mitigation Measure 5.4.K-4: Incorporate Energy Efficiency Measures.
5.2.L-1: Potential environmental justice impacts	PS	PS	No Impact	PS	Mitigation Measure 5.2.L-1a: Implement mitigation measures regarding transportation, air quality, noise and hazards. Mitigation Measure 5.2.L-1b: Conduct environmental justice screening analysis.

LTS = Less than Significant; LTSM = Less than Significant with Mitigation; PS = Potentially Significant

4. Supplemental Revisions to the Land Use and Recreation Analysis

4.1 Setting Discussion

Supplemental Additions to Section 4.2.D

Enlarge Pardee Reservoir

The following discussion is added to the environmental setting information for the Enlarge Pardee Reservoir component in Section 4.2.D.2 of the 2009 PEIR in order to enhance the information provided on the Middle Bar Run segment of the Mokelumne River:

The Middle Bar Run extends approximately 2 miles from the SR 49 bridge to the Middle Bar Bridge. Boaters using this segment can put in at the SR 49 bridge or at the Electra Run take-out just upstream of the SR 49 bridge and take out near the Middle Bar Bridge. EBMUD has constructed the Middle Bar Takeout Facility on the north side of the river adjacent to Middle Bar Bridge, with parking, toilets, 2 picnic sites, and a path to the riverbank. BLM has constructed the Big Bar River Access on the south side of the river immediately downstream of the SR 49 bridge, with a boat put-in/take-out, 4 picnic sites, toilets, informational kiosk, and parking for 20 vehicles (BLM 2007). The driving shuttle between the put-in at the SR 49 bridge and the take-out is 5.3 miles via SR 49 and Middle Bar Road. The 2.8 mile Middle Bar Road portion of the shuttle trip (between SR 49 and the takeout at Middle Bar Bridge) is narrow, rough, and steep in some sections.

The Middle Bar Run is generally described as a Class II run, but the most noteworthy and only named rapids (commonly called the Devil's Toiletbowl, and described as Class III) are at the start of the run. It is possible for whitewater paddlers to portage upstream along the south riverbank and run the first set of rapids repeatedly. There are two to four widely spaced Class I or II rapids on the remainder of the run, depending on flows (angelfire.com 2011, awetstate.com 2011, cacreeks.com 2011). When Pardee Reservoir is at or near full pool, the final mile of the Middle Bar Run is a slack-water paddle with little or no current. With fewer and less challenging rapids than the Electra Run, the Middle Bar Run attracts canoeists and boat anglers as well as novice whitewater paddlers (BLM 2007).

Some whitewater boaters may choose to extend their river outing by combining the Electra and Middle Bar Runs, which lengthens the overall trip to about 5 miles, but triples the shuttle distance from 3 miles to nearly 9 miles.

EBMUD field personnel estimate that typically no more than about 15 kayakers per week may use the Middle Bar Run during the summer months. In recent years, OARS, a rafting outfitter, has conducted two or three benefit rafting trips per year on the Middle Bar Run with about 80 participants per trip. Use of the Middle Bar Run is presumably lower than use of the Electra Run due to the limited whitewater after the initial rapids and the less favorable driving conditions to the take-out on Middle Bar Road. Middle Bar Road can be particularly hazardous during the wet weather typical of the winter months.

Trip reports note that the scenery improves on the Middle Bar Run, enhanced by the lack of a road alongside the river (cacreeks.com 2011, awetstate.com 2011). With the exception of the Middle Bar Takeout Facility and Middle Bar Bridge, access to the Middle Bar Run is currently limited to boats. However, EBMUD is planning to construct the Middle Bar segment of the Mokelumne Coast to Crest Trail on watershed lands south of the river, between Middle Bar and SR 49. Trail construction is scheduled to be completed in Fall/Winter 2012. Spur trails will provide access to the river from the main trail (EBMUD 2011). Anglers currently use the Middle Bar Take-out Facility and Middle Bar Bridge to access the river, and the historic bridge is a scenic and popular place for local residents to visit and from which to fish.

4.2 Impacts Analysis

Supplemental Additions to Section 5.2.D

The following analysis is added to the analysis of potential land use and recreation impacts in Section 5.2.D.5 discussing potential impairment of recreation facilities and activities as a result of the Enlarge Pardee component:

Reservoir pool elevation varies by year type and time of year. For purposes of this program-level analysis, it is assumed that the component would inundate the entire Middle Bar Run at certain times, also shown in Figures 3-9 and 3-10 in Chapter 3. The run would be inundated during the spring and summer months most years; although the upper portion of the run (where the most substantial rapids are located) may be exposed during the spring and summer months of dry years (roughly 3 out of every 10 years) and at other times depending on operations and project design. The lower 1.5 miles of the Middle Bar Run, the downstream-most 1.0 mile of which is inundated for much of the spring and summer months under current conditions, would be inundated during the spring and summer months of all or nearly all years (i.e., all water year types). Impacts associated with the loss of whitewater rafting and other recreational opportunities on the Middle Bar Run would be *potentially significant*. Implementation of Mitigation Measure 5.2.D-2b would reduce potential impacts on the Middle Bar

Run; however, for purposes of this program-level analysis, impacts to recreational use would remain potentially significant.

Mitigation Measure 5.2.D-2c is added as follows:

Mitigation Measure 5.2.D-2c: Replace inundated recreational facilities and preserve boating and recreational opportunities and recreational features on the Middle Bar Run.

EBMUD or its contractors shall implement the following measures for the Enlarge Pardee Reservoir component:

- Replace recreational facilities in the Middle Bar Run area inundated as a result of enlargement of the reservoir;
- Implement an operations plan to preserve boating and other recreational opportunities on and along the Middle Bar Run; and
- To the extent feasible, implement an operations plan that preserves the whitewater features of the Middle Bar Run.

Impact Significance After Mitigation: Potentially Significant

The significance finding for Impact 5.2.D-2 is changed to reflect this finding with regard to impacts to recreational features on the Middle Bar Run and Table 5.2.D-1 on page 5.2.D-9 of the 2009 PEIR is modified as shown on the following page.

Table 5.2.D-1: Summary of Potential Land Use and Recreation Impacts Resulting from the WSMP 2040 Preferred Portfolio

IMPACT	RATIONING	CONSERVATION	RECYCLED WATER	NORTHERN CALIFORNIA WATER TRANSFERS	BAYSIDE GROUNDWATER PHASE 2	SACRAMENTO BASIN GROUNDWATER BANKING / EXCHANGE	REGIONAL DESALINATION	ENLARGE PARDEE RESERVOIR	ENLARGE LOWER BEAR RESERVOIR	IRCUP / SAN JOAQUIN GROUNDWATER BANKING / EXCHANGE
5.2.D-1: Potential reduction of agricultural productivity as a result of indirect disruptions on agricultural operations, and conversion of State-designated farmlands to non-agricultural uses	--	--	LTSM	PS	--	LTSM	--	LTSM	LTSM	LTSM
5.2.D-2: Potential impairment of recreation facilities and activities	--	--	LTSM	LTSM	LTSM	LTSM	LTSM	PS*	LTSM	LTSM
-- = No Impact, LTS = Less than Significant, LTSM = Less than Significant with Mitigation, PS = Potentially Significant, B = Beneficial * The PS designation was assigned based on the potential to impact whitewater or recreation features of the Middle Bar Run. Other land and recreational use impacts can potentially be mitigated and/or are not viewed as potentially significant.										

5. Supplemental Revisions to the Cultural Resources Analysis

5.1 Impacts Analysis

As noted in Section 4.2.H of the 2009 PEIR, the native Miwok people inhabit Amador and Calaveras counties, and have a black willow gathering site in the Middle Bar area. Black willow is a common species, native along stream banks from British Columbia southward to southern California and New Mexico. The Miwok manage the willow stand and gather materials there for baskets and cradleboards as well as for medicinal purposes.

Supplemental Additions to Section 5.2.H

The following analysis is added as a supplement to the discussion of impacts in Section 5.2.H of the 2009 PEIR:

According to Appendix G of the CEQA Guidelines, a cultural resources impact is considered significant if it would cause a substantial adverse change in the significance of a unique archaeological resource or an historical resource as defined in Section 21083.2 of CEQA and Section 15064.5 of the CEQA Guidelines.

While local registries and the record searches have not indicated the presence of sacred sites in the area and thus it is not certain that there are resources that would be considered unique archaeological resources in the area, Native Miwok people from different tribes inhabit Amador and Calaveras counties, and individual Miwoks have described a willow gathering site in the Middle Bar area of the Mokelumne River within the upper reaches of the existing reservoir pool (versus along the flowing stretch of the river) near Middle Bar Bridge. According to statements, the Miwok gather materials from the willow stand for baskets, cradleboards, and for medicinal purposes.

As part of a project-level analysis for the Enlarge Pardee component, further identification of cultural resources would occur and this analysis would include identification of character-defining features and the formulation of feasible mitigation measures to reduce impacts.

Any resources at or below the maximum flood level would potentially be subject to damage or disturbance from construction of the Enlarge Pardee component. Potentially affected resources may include prehistoric and historical archaeological sites, features of the built environment, human burials, historic landscapes, and Traditional Cultural Properties, such as sacred sites, as well as material gathering areas, which could include areas associated with willow

gathering, and other locations of importance to Native Americans or other ethnic groups.

Impacts to resources from the Enlarge Pardee component would be considered *potentially significant*. Implementation of Mitigation Measures 5.2.H-1a through 5.2.H-1d, which require a record search and responsive measures, along with the following additional Mitigation Measure 5.2.H-1e, would reduce potential impacts to less-than-significant levels.

Mitigation Measure 5.2.H-1e: Evaluate CRHR-eligible and NRHP-eligible archaeological resources, Traditional Cultural Properties, and Historic Landscapes and prepare and implement a plan to ensure continued willow gathering and other cultural activities.

Prior to ground-disturbing activities associated with the implementation of the Enlarge Pardee component, EBMUD shall retain the services of qualified cultural resources specialist to evaluate CRHR-eligible and NRHP-eligible cultural resources including prehistoric and historical archaeological sites, historic landscapes, and Traditional Cultural Properties, as well as eligible areas associated with plant gathering for basketry and cultural uses, and will identify specific measures to avoid, reduce or mitigate impacts on these resources. The evaluation shall include consultation with representatives of local Miwok tribes. The preferred measure to address potential impacts to identified resources shall be avoidance of resources whenever feasible. For resources that cannot be feasibly avoided, a management plan will be developed that will include measures to reduce or otherwise mitigate impacts. Measures included in the plan will include, at a minimum, habitat creation measures to address loss of willows, including but not limited to measures to re-establish willow sites and ensure the success of revegetation efforts, and ensure access for cultural uses, along with documentation and development of interpretive displays for any resources where disturbance cannot be avoided.

This measure will reduce the potential impact on native Miwok willow gathering sites from the Enlarge Pardee component to a level that is less than significant.

Impact Significance After Mitigation: Less Than Significant

6. Supplemental Revisions to the Hazards Analysis

6.1 Setting Discussion

Supplemental Additions to Section 4.2.J

Section 4.2.J of the 2009 PEIR noted that local residents and people recreating along the Mokelumne River would use Middle Bar Bridge as an evacuation route in the event of an up-canyon wildfire. This bridge provides first responder access for law enforcement, fire, and medical emergencies. The following new information is also added to supplement the description on in Section 4.2.J of the 2009 PEIR regarding categories of hazards:

Middle Bar Bridge is used to cross Mokelumne Canyon, and it provides ingress and egress for evacuation and emergency access in the area. Middle Bar Bridge also provides access for residents who live in approximately 6 to 12 homes in the area along the Mokelumne River as well as for recreational users who visit the area for rafting, kayaking, fishing, walking, and wildflower viewing. The posted weight limit for the bridge is 16 tons. The nearest crossings over the Mokelumne River are approximately five miles east of Middle Bar Bridge via Hwy 49 in Amador County, and approximately 11 miles east via Hwy 26 in Calaveras County. Emergency response in the area often involves multiple resources, and both Calaveras County and Amador County emergency service providers use Middle Bar Bridge to respond to emergencies on opposite sides of the bridge. In the event of a fire in Mokelumne Canyon, Middle Bar Bridge serves as an emergency access and evacuation route. In addition, Middle Bar Bridge serves as an alternate route over the river when other bridges are closed and traffic must be diverted (e.g., if the Hwy 49 bridge is closed) and it is used for evacuation and access for other emergencies.

6.2 Impacts Analysis

Supplemental Additions to Section 5.2.J

The following new significance criterion is added to supplement the discussion of impacts and mitigation measures in Section 5.2.J.1, Significance Criteria:

A significant impact related to hazards would occur if the WSMP 2040 Preferred Portfolio would impair or physically interfere with emergency response or evacuation due to the elimination of a necessary route.

The following Impact 5.2.J-4 and Mitigation Measure 5.2.J-4 are added to the Hazards impact discussion of mitigation measures in Section 5.2.J.3 of the 2009 PEIR:

Impact 5.2.J-4: Potential impairment of evacuation and emergency access to occupants and responders along Gwin Mine Road and Middle Bar Road.

The discussion below addresses the Enlarge Pardee Reservoir component:

The Enlarge Pardee Reservoir component would require alterations and possible relocation of the Middle Bar Bridge, which provides access for residents who live in the 6 to 12 homes that currently exist along the river as well as for recreational users who visit the area for rafting, kayaking, fishing, walking, and wildflower viewing. Middle Bar Bridge also provides ingress and egress for evacuation and emergency access in the area. The nearest crossings over the Mokelumne River are approximately five miles east of Middle Bar Bridge via Hwy 49 in Amador County, and approximately 11 miles east via Hwy 26 in Calaveras County. Removal of Middle Bar Bridge would impede access and delay emergency response to and from Mokelumne Canyon, depending on the location of the emergency. Emergency response in the area often involves multiple resources, and both Calaveras County and Amador County emergency service providers use Middle Bar Bridge to respond to emergencies on opposite sides of the bridge. In the event of a fire in Mokelumne Canyon, Middle Bar Bridge serves as an emergency access and evacuation route, and allows fire protection personnel to approach the fire from behind. In the case of both medical emergency and fire, removal of Middle Bar Bridge could result in delayed response time and potential loss of life and/or property. In addition, Middle Bar Bridge serves as an alternate route over the river when other bridges are closed and traffic must be diverted (e.g., if the Hwy 49 bridge is closed). The impact on emergency access would be ***potentially significant***. Implementation of Mitigation Measure 5.2.J-4 below would reduce this potential impact to a less-than-significant level.

Mitigation Measure 5.2.J-4: Preserve evacuation and emergency access to occupants and responders along Gwin Mine Road and Middle Bar Road.

Prior to the start of any activities that would impair the use of the Middle Bar Bridge for emergency response and evacuation, EBMUD shall consult with local and state emergency response authorities, including authorities from federal, state, and county agencies, and prepare an emergency response and evacuation plan that identifies measures necessary to preserve evacuation and emergency access in Mokelumne Canyon. The emergency response and evacuation plan shall include, at a minimum, measures to maintain evacuation and access, as well as marking and signs and education materials for local residents on available routes, timing of construction, and agency contacts in case of emergency. The plan will also include designation of an emergency response officer to ensure that access is provided and emergency personnel are updated on construction issues and the location of crews.

Impact Significance After Mitigation: Less than Significant

Impact 5.2.J-4 is added to Table 5.2.J-1, on page 5.2.J-7 of the Draft PEIR, as shown on the following page.

Table 5.2.J-1: Summary of Potential Hazards Impacts Resulting from the WSMP 2040 Preferred Portfolio

IMPACT	RATIONING	CONSERVATION	RECYCLED WATER	NORTHERN CALIFORNIA WATER TRANSFERS	BAYSIDE GROUNDWATER PHASE 2	SACRAMENTO BASIN GROUNDWATER BANKING / EXCHANGE	REGIONAL DESALINATION	ENLARGE PARDEE RESERVOIR	ENLARGE LOWER BEAR RESERVOIR	IRCUP / SAN JOAQUIN GROUNDWATER BANKING / EXCHANGE
5.2.J-1: Potential exposure to uncontrolled releases of hazardous materials	--	--	LTSM	LTSM	LTSM	LTSM	LTSM	LTSM	LTSM	LTSM
5.2.J-2: Potential exposure of construction workers to contaminated soil and water	--	--	LTSM	LTSM	LTSM	LTSM	LTSM	LTSM	LTSM	LTSM
5.2.J-3: Potential exposure to risk of wildland fires	--	--	LTSM	LTSM	--	--	LTSM	LTSM	LTSM	LTSM
5.2.J-4: Potential impairment of evacuation and emergency access to occupants and responders along Gwin Mine Road and Middle Bar Road	--	--	--	--	--	--	--	LTSM	--	--
-- = No Impact, LTS = Less than Significant, LTSM = Less than Significant with Mitigation, PS = Potentially Significant, B = Beneficial										

7. Analysis of EBMUD Participation in the Los Vaqueros Reservoir Expansion

This chapter sets forth an analysis of the potential for EBMUD to participate in the expansion of Los Vaqueros Reservoir.

Contra Costa Water District (CCWD) is currently undertaking a project to expand the existing Los Vaqueros Reservoir, located in Contra Costa County, from 100 thousand acre-feet (TAF) to 160 TAF. In 2010, CCWD certified an environmental analysis for this project which analyzed both the 160 TAF expansion that was approved in 2010, and a future expansion to 275 TAF. The analysis found that there were a number of potentially significant environmental impacts from both the 160 TAF expansion and the 275 TAF expansion, but that most of these impacts could be mitigated to a level that is less than significant. CCWD approved a 160 TAF reservoir expansion and noted that it was possible that the 275 TAF expansion could be undertaken in the future, but other factors, including ongoing administrative and regulatory proceedings, could determine the timing of the project and participation in it.

EBMUD can gain supplemental supplies through participation in the expansion of Los Vaqueros Reservoir by providing water to CCWD in wetter years and obtaining supplies when needed in dry years. EBMUD has identified three conceptual options for participation in the current enlargement.

Two of those options assume that CCWD would supply EBMUD with treated water by taking water held in storage and/or reserved for EBMUD and treating it using their treatment plant(s) and distribution system and delivering it to EBMUD via a distribution system intertie or interties. The third option assumes that CCWD would supply EBMUD with raw water, delivered through a raw water intertie between the Los Vaqueros Pipeline and the Mokelumne Aqueduct. All options assume that storage in Los Vaqueros Reservoir would be made available to EBMUD and all options assume that EBMUD would fill the Los Vaqueros Reservoir storage during non-drought years and take delivery of the stored water during a drought. The storage in Los Vaqueros Reservoir used by EBMUD is assumed to be approximately 20 to 30 TAF in the 160 TAF reservoir and could be approximately 100 TAF in the future expansion to 275 TAF. Actual storage available would be determined at the project-specific stage of analysis. These scenarios are conceptual in nature and would be further evaluated and refined at a project-specific level of review if they are undertaken.

Under the first treated water scenario, water would be delivered through an existing EBMUD-CCWD water system intertie (named the Boyd Road intertie). The maximum delivery rate is limited by the capacity of that intertie (approximately 8 mgd). The actual delivery rate would depend upon demand conditions in the EBMUD distribution system and other water supply and operating conditions. This program-level analysis indicates

that other improvements would likely be needed to make use of the treated water in the portions of the EBMUD service area that are closest to the intertie. Details regarding the additional facility upgrades are set forth in Appendix B.

The second scenario is similar to the first, in that it involves treated water delivered by CCWD to EBMUD. As an addition to this option, EBMUD would potentially construct a new intertie that would increase the maximum delivery rate from 8 mgd to 12 mgd. Actual delivery rates would depend upon demand conditions in the EBMUD distribution system and other water supply and operating conditions. This alternative differs from the first treated water alternative in that it allows for higher flow rates during higher demand periods and expands the area that would receive water from this source. Like the first alternative, it also requires additional improvements to the EBMUD treated water distribution system. Appendix B details the other system improvements required.

The raw water option assumes EBMUD takes delivery of raw water from CCWD. Conveyance systems are in place that would allow EBMUD to accept delivery of raw water via the Mokelumne Aqueduct, for conveyance to a local EBMUD storage reservoir or water treatment plant. Appendix B details the limits presented by this scenario and notes that upgrades would be needed to EBMUD's transmission infrastructure and treatment systems in order for EBMUD to make use of this supply. This option provides the flexibility of blending this source with other water sources, in a raw water aqueduct, at a treatment plant or within a raw water reservoir.

While participation in the current expansion is a feasible supplemental supply project and can be included in the portfolio of supplemental supply project options in the WSMP 2040, the minimum three year average yield of approximately 6 mgd is not alone sufficient to meet EBMUD's long-term Need for Water. This project, however, presents an additional option that may be used in combination with the other supplemental supply project options included in the WSMP 2040.

There are many uncertainties associated with the potential future effort to increase the Los Vaqueros Reservoir capacity to 275 TAF and there are also additional environmental impacts associated with this future expansion. For EBMUD, because of regulatory and other uncertainties regarding the manner in which the project would be implemented and the legal constraints that would attach to use of the project, it is difficult to discern at this time the cost and actual yield of a participation in this effort. While this supplemental analysis examines a conceptual project to participate in the future expansion, because of issues regarding the available water quality and institutional hurdles, the project is not a preferable option for meeting EBMUD's 2040 Need for Water, and inclusion of this potential supplemental supply project option in the WSMP 2040 would not satisfy the goals and objectives for the program.

7.1 Description of Contra Costa Water District's Los Vaqueros Reservoir Expansion

The Los Vaqueros Reservoir Expansion involves expansion of the existing Los Vaqueros Reservoir, which is owned and operated by CCWD. CCWD is undertaking this expansion to improve water supply reliability under drought and emergency conditions, and to further improve water quality for its customers. In March 2010, CCWD certified a project-level Environmental Impact Statement/Environmental Impact Report for the Los Vaqueros Reservoir which examined both the current expansion to 160 TAF and a further enlargement up to 275 TAF. CCWD then approved the expansion to 160 TAF. The maximum water surface elevation in the reservoir lies at 472 feet above mean sea level (msl) in the foothills west of the Sacramento-San Joaquin River Delta (the Delta) in Contra Costa County at the eastern edge of the Bay Area (**Figure 7-1**). It is an off-stream reservoir, meaning that it relies on water being pumped into it from another location (in this case, the Delta), rather than being located on a river and intercepting natural flows. CCWD currently pumps water from the Delta into the 100 TAF-capacity reservoir.

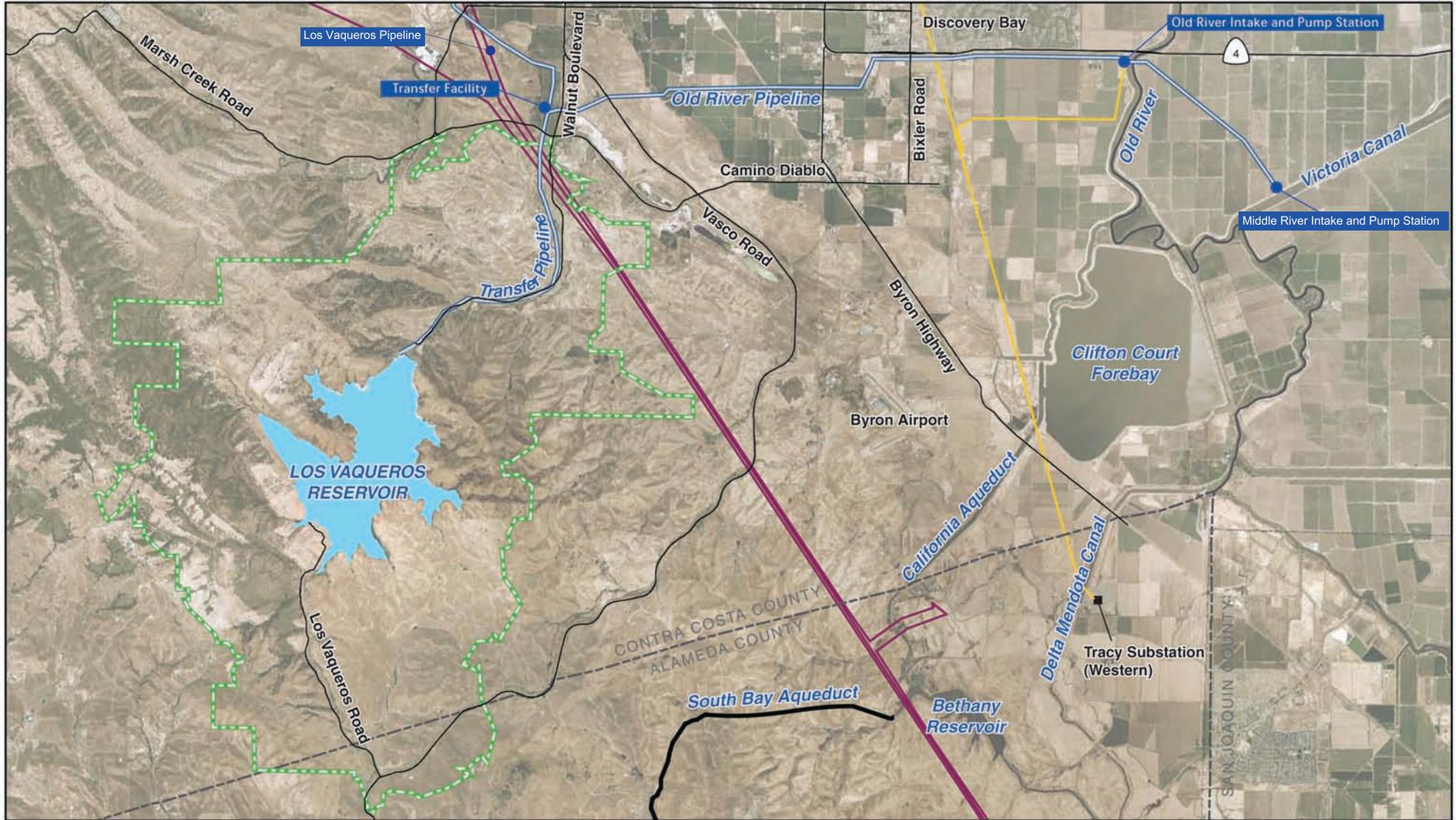
At present, water is diverted from the Delta at the 250-cubic foot per second (cfs)-capacity Old River Intake and Pump Station and/or the 250 cfs-capacity Middle River Intake and conveyed via the 320 cfs-capacity Old River Pipeline to the Transfer Facility. The existing 200 cfs-capacity Transfer Facility is the hub of the Los Vaqueros Reservoir system, regulating flows into and out of the Los Vaqueros Reservoir via the Transfer Pipeline and into the Contra Costa Canal via the Los Vaqueros Pipeline. At present, water is conveyed from the Transfer Facility either under gravity to the Contra Costa Canal via the 400 cfs-capacity Los Vaqueros Pipeline or pumped up to the Los Vaqueros Reservoir via the Transfer Pipeline. The Transfer Pipeline connecting the Transfer Facility and the reservoir has a fill capacity of 200 cfs and a release capacity of 400 cfs. CCWD also diverts water to its service area from an intake on Rock Slough in the Delta, and diversions from Rock Slough are not stored in Los Vaqueros Reservoir.

7.1.1 Current Expansion

The Final EIS/EIR for the Los Vaqueros Reservoir Expansion Project (LVE EIR/EIS) was completed in March 2010. CCWD was the state lead agency for the CEQA document and the U.S. Department of the Interior, Bureau of Reclamation was the lead federal agency for NEPA purposes.

Los Vaqueros Reservoir is currently being expanded by CCWD, and construction is expected to be completed by Spring 2012. The current expansion will raise the water surface level 35 feet for a maximum reservoir water surface elevation of 507 feet msl and will increase the capacity from 100 TAF to 160 TAF. The reservoir inundation area will increase approximately 400 acres from 1,500 acres to 1,900 acres.

**Figure 7-1
Los Vaqueros Reservoir and Existing CCWD Facilities**



EBMUD Water Supply Management Program 2040

- Existing PG&E Transmission Lines
- Existing Western Transmission Lines
- CCWD Los Vaqueros Watershed Property Line

(Facilities Not to Scale)

Source: USGS, 1993 (base map); and ESA, 2008

0 0.5 1 Mile

AECOM 11/29/11

Reservoir expansion will involve dam modifications and the construction of appurtenant facilities including the spillway, inlet/outlet works, and reservoir oxygenation system. There are no changes to the Delta intake facilities and no expansion of conveyance from the Delta to the reservoir. The limited dam raise necessary to expand the reservoir to 160 TAF is being achieved by construction primarily on the downstream slope of the existing dam, allowing the reservoir to remain in operation throughout the majority of construction.

Facilities Required

- Minor upgrades to pumps at an existing Transfer Facility (all work would be done within the existing facility site)

Operation

Under the current expansion, operation of Los Vaqueros Reservoir will continue as under existing conditions and no expansion of CCWD transfer facilities or pipelines will occur. As with current CCWD operation, operation under the current expansion will include the following features:

- Reservoir filling would occur during periods of low salinity;
- For the protection of listed fish species, CCWD will refrain from filling Los Vaqueros Reservoir for a 75- to 90-day No-Fill Period in the spring;
- No water will be diverted from CCWD intakes, including through the Los Vaqueros intake system, from the Delta during critical fish periods for a 30-day No-Diversion Period in the spring;
- CCWD will rely on releases from the reservoir during the No-Diversion Period; and
- CCWD will use adaptive management of multiple Delta intake locations to reduce impacts to fish.

CCWD will operate the current expansion primarily to increase water supply reliability. Operations to increase water supply reliability will include dry-year storage and emergency storage. Operating for dry-year storage will increase the amount of good quality water available. The increase in available water will be up to 60 TAF at the start of a drought. Additional storage in an expanded Los Vaqueros Reservoir will provide water quality improvements for CCWD in dry years as well as reduce the number of years in which CCWD is exempt from the No-Fill and No-Diversion Periods when there is insufficient stored water in Los Vaqueros Reservoir.

7.1.2 Future Expansion

The LVE EIS/EIR evaluated three alternatives for a larger future expansion. This program-level analysis focuses on Alternative 1 to represent the discussion of a future

expansion as this alternative contains the greatest extent of associated facilities and therefore includes a conservatively high estimate of impacts for the purpose of environmental review. The specific intake and conveyance facilities included in the LVE EIS/EIR, Alternative 1, may not be needed in a future expansion of Los Vaqueros Reservoir for CCWD and EBMUD only. Further analysis of the facility needs would be necessary.

The future expansion would raise the maximum reservoir water surface elevation to 560 feet msl and would increase the capacity to 275 TAF. The reservoir inundation area would increase to 2,500 acres. As with the current expansion, the future expansion would involve dam raise modifications and the construction of appurtenant facilities including the spillway, inlet/outlet works, and reservoir oxygenation system; however, the future expansion would also include the existing conveyance system that moves water from the Delta to Los Vaqueros Reservoir. This would involve construction of new pipelines generally parallel to the existing pipelines, from the Delta intake to the Transfer Facility and from the Transfer Facility up to the reservoir, and capacity expansion at the Transfer Facility. New and expanded Intake Facilities and Pump Stations would also be required. The future expansion would require the draining of the existing reservoir prior to construction. It would remain drained and out of service throughout the construction period and would be refilled following construction.

Facilities Required

- New 170-cfs capacity Delta Intake and Pump Station. This facility was included to provide deliveries to other water agencies and may not be needed for water deliveries to EBMUD. However, for the purposes of this program-level analysis, the impacts analysis performed for the new Delta Intake and Pump Station are retained;
- Expansion of Transfer Facility capacity from 200 cfs to 670 cfs;
- Expansion of the Old River Intake and Pump Station from 250 cfs to 320 cfs;
- New 38,000-foot-long, 96-inch diameter, 350-cfs capacity Delta-Transfer Pipeline between the new Delta Intake and Pump Station and the existing Transfer Facility;
- New 19,600-foot-long, up to 132-inch diameter, 670-cfs capacity Transfer-LV Pipeline between the reservoir and the Transfer Facility;
- As evaluated in the LVE EIS/EIR, Alternative 1 included a new 8.9-mile-long, 132-inch diameter, up to 470 cfs-capacity Transfer-Bethany Pipeline connecting the new Delta-Transfer Pipeline and the existing Transfer Pipeline. This facility was included to provide deliveries to other water agencies and would not be needed for water deliveries from Los Vaqueros Reservoir to EBMUD. However,

for the purpose of this program-level analysis, the impacts analysis performed for the Transfer-Bethany Pipeline is retained; and

- Additional and/or new power supplies for the new Delta Intake and Pump Station and expanded Transfer Facility.

Operation

Total combined diversion capacity at the Old River and Middle River intakes would increase from the current 320 cfs to up to 670 cfs (250 cfs from the existing Old River Intake and Pump Station, 250 cfs from the existing Middle River Intake facility, and 170 cfs from the new Delta Intake and Pump Station) under the future expansion.

Under the future expansion, the existing 250 cfs Old River Intake and Pump Station would be expanded to 320 cfs and a new pipeline, the Delta-Transfer Pipeline, would be constructed between the new Delta Intake and Pump Station and the Transfer Facility. The additional capacity is needed because more water would be pumped to fill the expanded reservoir at a higher rate. Expansion of the existing Transfer Facility would be required to provide the capacity to move additional water to the expanded, higher reservoir. In addition to the existing Old River Intake and Middle River Intake, the new Delta Intake and Pump Station may be required. The additional capacity would allow water to be pumped at a higher rate to fill the larger reservoir. Water could also be diverted at a higher rate for direct delivery to project partners.

In addition to the new Delta-Transfer Pipeline and Transfer-Bethany Pipeline, an additional pipeline—the Transfer-LV Pipeline—would be installed to convey up to 670 cfs from the Transfer Facility to the expanded Los Vaqueros Reservoir. This pipeline could be used for release flows. The existing Transfer Pipeline would be used for releases only and would retain its existing capacity of up to 400 cfs. Additional filling capacity in this part of the conveyance system is needed because filling the larger reservoir during the limited period when water quality is sufficient requires a greater rate of flow than the current Transfer pumps and pipeline can deliver.

As with current CCWD operations and the current expansion, operations under the future expansion would include the following features:

- Reservoir filling would occur during periods of low salinity;
- For the protection of listed fish species, CCWD would refrain from filling Los Vaqueros Reservoir for a 75- to 90-day No-Fill Period in the spring;
- No water would be diverted through CCWD intakes, including the Los Vaqueros intake system, from the Delta during critical fish periods for a 30-day No-Diversion Period in the spring;
- CCWD would rely on releases from the reservoir during the No-Diversion Period; and

- CCWD will use adaptive management of multiple Delta intake locations to reduce impacts to fish.

The water system operations for the future raise were designed with a dual emphasis on improving environmental water management and increasing water supply reliability. As with the current expansion, operations to improve environmental water management would include the no-diversion period and multiple delta intake locations. As with the current expansion, operations to increase water supply reliability would include dry-year storage and emergency storage.

7.2 EBMUD Participation in the Los Vaqueros Reservoir Expansion

As envisioned for this program-level analysis, participation in the Los Vaqueros Reservoir Expansion would involve CCWD supplying water to EBMUD from the reservoir primarily in drier years when EBMUD has unmet demand. During wetter years EBMUD will supply water to CCWD to be credited for EBMUD's use during drier years.

7.2.1 System Improvements Required for EBMUD Participation in Los Vaqueros Reservoir Expansion

CCWD has indicated, in discussions with EBMUD, that a portion of the storage capacity currently under construction as part of the expansion could be operated to provide dry year water supply to EBMUD, and that CCWD water treatment and conveyance facilities could be used to deliver water supply to EBMUD. To participate in the Los Vaqueros Reservoir Expansion, EBMUD would need to construct additional facilities to take the water into EBMUD's system. The facilities necessary for participation and the impacts of these facilities are dependent on project-level planning which would identify exact routes, sizes, specific treatment needs if any, and other details. A range of potential options for connection to the Los Vaqueros system is described below. The facilities described in this document, including pipeline alignments, represent a conceptual planning level of review. Actual facilities and their locations would be determined in project-level planning and environmental documentation if the project is undertaken. Potential facilities are described below and their locations are shown in **Figure 7-2**.

Current Expansion

Under the current reservoir expansion, EBMUD has determined that it could take water from CCWD that is treated at one of CCWD's water treatment plants, or it could take untreated water from the CCWD system and treat this water using EBMUD facilities.

EBMUD would consider multiple sources of water for delivery to CCWD in wetter years, and these deliveries would increase the water storage in Los Vaqueros Reservoir, and would allow deliveries from CCWD to EBMUD in drier years.

Possible sources include CCWD's CVP water, a water transfer as entered into by EBMUD and delivered via EBMUD's Freeport Regional Water Project and Mokelumne Aqueducts, or EBMUD's Mokelumne River water as delivered via EBMUD's Mokelumne Aqueducts in conjunction with an existing intertie connecting the Aqueducts with CCWD's Los Vaqueros Reservoir. Another delivery option for either transfer water and/or Mokelumne water would be to take the water once it reaches the Delta and then divert it to the Reservoir via CCWD's Delta intakes. No new infrastructure would be needed to send water to Los Vaqueros Reservoir from these sources using these methods. As noted below, untreated supplies delivered from Los Vaqueros Reservoir to EBMUD will not have water quality equivalent to the water that EBMUD receives from its Mokelumne facilities and thus additional treatment would be necessary and additional treatment facilities would be required to take additional raw water from Los Vaqueros Reservoir. Additional information on treatment needs and facility concepts is summarized in Appendix B of this document.

Treated Water Options

Two conceptual treated water alternatives were developed which convey water directly from CCWD's treated water distribution system to EBMUD's treated water distribution system. Before the actual treated water connections can be evaluated in detail more extensive hydraulic modeling would be required to confirm water demands within specific areas, and pressure and flow parameters. Additionally, water quality evaluations would need to be conducted to address regulatory and aesthetic considerations.

Treated Water - Boyd Road Intertie Option

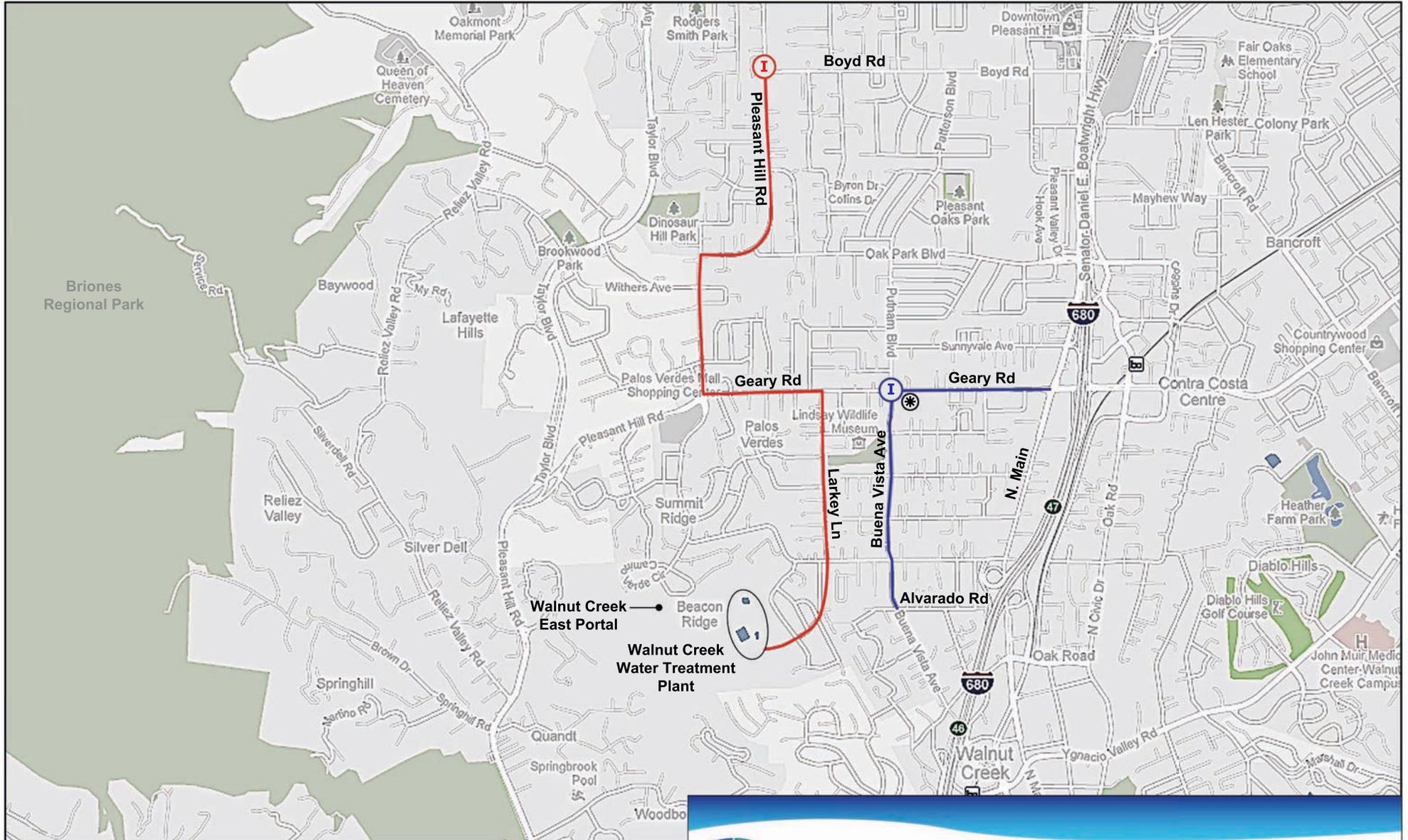
Under this option, EBMUD would take water from CCWD that is treated using CCWD's facilities. The treated water would be received at the existing Boyd Road intertie, which is located at the intersection of Boyd Road and Pleasant Hill Road in Walnut Creek (see **Figure 7-3**). The treated water would then be pumped to the EBMUD distribution system for delivery within its service area in specific areas.

Treated Water - New Intertie Option

Under this option, EBMUD would take water from CCWD that is treated using CCWD's facilities. The treated water would be transferred through a new intertie that would be constructed by EBMUD in the vicinity of Geary Road and Buena Vista Road in Walnut Creek (see **Figure 7-3**). The treated water would then be pumped to the EBMUD distribution system for delivery within its service area.

Figure 7-3

EBMUD System Improvements Required for Los Vaqueros Reservoir Expansion Treated Water Options



EBMUD Water Supply Management Program 2040

- Pipeline for Treated Water - Boyd Road Intertie Option
- Pipeline for Treated Water - New Intertie Option
- I** Intertie
- Walnut Creek Raw Water Pumping Plant

Source: Google Maps, AECOM 0 1000 2000 Feet **AECOM** 11/29/11

New Facilities Required

Boyd Road Intertie Option

- Approximately 11,000 linear feet of 24-inch-diameter pipeline would be placed along Pleasant Hill Road, Geary Road, and Larkey Lane (between Boyd Road and Alvarado Avenue);
- New instrumentation and control equipment would be installed; and
- A pump station with a capacity of approximately 12 million gallons per day would be installed near the intertie. Property acquisition would be required for this facility.

New Intertie Option

- Approximately 4,000 linear feet of 24-inch-diameter pipeline would be placed along Buena Vista Avenue (between Geary Road and Alvarado Avenue);
- Approximately 3,000 linear feet of 24-inch-diameter pipeline would be placed along Geary Road (between Buena Vista Road and North Main Street); and
- A permanent intertie pumping plant (with a pumping rate of approximately 12 million gallons per day) would be constructed at the Walnut Creek raw water pumping plant with remote control and instrumentation. Property acquisition for this pumping plant would be required.

Operation

EBMUD would store water with CCWD during non-drought years and would receive water during drought years. During drought years, the current expansion and a treated water connection could create an additional 18 to 21 TAF of storage for supplemental supplies for EBMUD, and allow delivery of about 8 million gallons per day of water supply in the second and third years of a drought, or at other times if needed.

Untreated Water Option

Under this option, EBMUD would receive untreated water from CCWD and send it through the Mokelumne Aqueduct to an existing EBMUD raw water reservoir for treatment at an existing EBMUD water treatment facility or, depending on the results of project-specific water quality studies, it could possibly be sent directly to one of EBMUD's in-line treatment facilities which treat water directly from the aqueducts. The latter alternative would require that additional treatment processes be installed at the in-line plants. Following treatment, the water would be delivered to customers within the EBMUD service area.

Facilities Required

- Replacement or retrofit of one or two existing 60-inch check valves to have manual locked close functionality; and
- Interconnection between Mokelumne Aqueduct Nos. 1 and 3 with two 54-inch isolation valves.
- Additional treatment could be required at one or more of EBMUD's existing water treatment plants depending upon aqueduct configuration and EBMUD's raw water system operation.

Operation

EBMUD would store water with CCWD during non-drought years and would receive water during drought years. During drought years, the current expansion could meet EBMUD's anticipated need for an additional 29 TAF delivered at a rate of about 45 million gallons per day during years 2 and 3; however, it is also possible that water would be delivered in drought year 1 or during other non-drought situations. This operation requires the use of EBMUD's Walnut Creek Pumping Plant which pumps raw water in the Mokelumne Aqueducts.

Future Expansion

Similar to the Untreated Water Option for the current expansion, participation in the future expansion would involve the transfer of untreated water to EBMUD from Los Vaqueros; however, due to the water quantities and quality, it would also require the construction of new treatment facilities to be located either at one or more of EBMUD's existing in-line water treatment plants or in another location.

As with the current expansion, EBMUD would consider multiple sources of water for delivery to CCWD in wetter years, including water obtained through transfers, EBMUD's CVP water or EBMUD's Mokelumne River water. It is difficult to discern the quantities that could be provided in these years, because pumping restrictions and other regulatory constraints could limit supplies. Available storage could also be limited depending on how the project is designed and implemented by CCWD. Water could be delivered to CCWD through the Mokelumne Aqueduct intertie with CCWD's Los Vaqueros pipeline, or delivered to the Delta and diverted at CCWD's Delta intakes. No new infrastructure would be needed to send water to Los Vaqueros Reservoir from these sources under these methods. Due to the quality of water, once it is blended with other Los Vaqueros supplies diverted from the Delta, additional treatment and additional treatment facilities would be required for distribution by EBMUD.

Facilities Required

- New treatment facilities would need to be constructed at one or more of EBMUD's existing in-line water treatment plants or in another to-be-determined

location to remove particulates which cannot be adequately treated at the in-line water treatment plants. Treatment would include the following processes: coagulation/flocculation, sedimentation, and chemical feed.

- Replacement or retrofit of one or two existing 60-inch check valves to have manual locked close functionality (this is also required under Current Expansion Untreated Water Option described above); and
- A new interconnection between Mokelumne Aqueduct Nos. 1 and 3 would be installed with two 54-inch isolation valves (also required under Current Expansion Untreated Water Option described above).

Operation

EBMUD would store water with CCWD during non-drought years and would receive water during drought years. In drought years, the future expansion could provide EBMUD with supplemental supplies to meet anticipated need of up to 100 TAF of storage delivered at a rate of 45 million gallons per day (MGD), primarily during years 2 and 3 of a drought. It is possible that water would be delivered in drought year 1 or during other non-drought situations, but this cannot be determined at this stage. This operation would require the use of EBMUD's Walnut Creek Pumping Plant which pumps raw water in the Mokelumne Aqueducts.

7.3 Summary of Impacts and Mitigation Measures Presented in CCWD's Los Vaqueros Reservoir Expansion Project EIS/EIR

The following is a summary of the impacts identified by CCWD that would occur as a result of expanding the Los Vaqueros Reservoir. For a detailed discussion and analysis of all impacts, please refer to the LVE EIS/EIR. A table summarizing all of the impacts and mitigation measures identified in the LVE EIS/EIR is presented in Appendix C.

7.3.1 Current Expansion

Construction Impacts

Most of the environmental impacts identified for the current expansion being undertaken by CCWD are associated with construction; these impacts are occurring or will be occurring soon as project construction is currently underway, but they will cease by the middle of 2012 once construction is completed. Construction impacts include effects associated with transport of construction materials and equipment and activities such as excavation, grading, foundation development, paving, and building of structures. Construction activities generate impacts such as increases in solid waste; noise; dust; indirect habitat disruption; temporary effects on recreational activities; construction traffic and access disruption; increased erosion; the potential for wildland fires from the use of equipment containing internal combustion engines; creation of flight hazards; or

increased potential for spill of hazardous materials used in construction (such as fuel, or paint) and related water quality issues. Construction-related ground-disturbing activities also have the potential to affect known and unknown cultural resources (including historical and paleontological resources and human remains) and/or buried utilities, which in turn could result in a disruption of public services. In some cases, construction effects were found to be less than significant and in other cases they were determined to be significant. In all cases, feasible mitigation measures were identified to reduce construction impacts to less-than-significant levels. No significant and unavoidable construction impacts were identified for the current expansion.

Operational Impacts

Project operation impacts relate primarily to the proposed diversion of water from the Delta for delivery to CCWD. By design, the current expansion of Los Vaqueros Reservoir to 160 TAF benefits Delta fishery resources. Therefore, impacts to Delta resources have been minimized as part of the design of the proposed project operations. Also by design, water diversion operations will not result in adverse effects on water supplies for other Delta water users. These design principles would be maintained in developing project operations to provide water supply for EBMUD. Operations of individual project facilities within the expanded system would not result in significant long-term impacts such as noise, air quality pollutant emissions, or public safety risks.

Siting/Footprint Impacts

Facility siting or footprint effects are the permanent effects that result from locating a facility on a specific site and removing or altering what was on the site previously. These types of impacts include effects on biological resources and habitats, cultural resources, and visual resources. For the current expansion, these impacts were considered to be significant and in most cases, feasible mitigation measures were identified to reduce these significant effects to less-than-significant levels.

Most of the significant footprint effects are associated with expansion of the reservoir, which would result in adverse effects on biological and cultural resources. The effects of reservoir expansion on biological resources would be mitigated to less-than-significant levels through implementation of a habitat compensation and enhancement program that would preserve, restore, and enhance affected habitats. The effects on cultural resources would be mitigated to less-than-significant levels through the implementation of a cultural resources avoidance and management plan. Significant impacts would also occur to the visual quality and character of the surrounding area in the lower Kellogg Valley from the use of the proposed borrow area to extract material for expanding the dam core; however, this effect would be mitigated to a less-than-significant level through implementation of a site restoration plan.

One footprint impact was found to be significant and unavoidable with the expansion from 160 TAF to 275 TAF—the loss of up to 22 acres designated as Important Farmland

by the state. This significant and unavoidable impact is discussed below under “Significant and Unavoidable Impacts.”

Additional Impact Discussions

Additional impacts that could occur as a result of the reservoir expansion include the emissions of greenhouse gases and inducement of growth in the CCWD service area.

As a global concern, increases in greenhouse gases contribute to cumulative impacts, rather than constituting a direct impact associated with a single project, and can result in changes in water supply availability, sea level rise, and increased flooding. Both construction and operation will result in increased greenhouse gas emissions. Construction emissions will be short-term, ceasing upon project construction completion. Greenhouse gas emissions associated with project operation will result primarily from the purchase and use of additional electrical energy to support water diversion and delivery pumping through the expanded Los Vaqueros Reservoir system. The current expansion will not conflict with any measures adopted by the state or other agencies to implement the California Global Warming Solutions Act of 2006 (AB 32) and will include design features to minimize energy consumption and greenhouse gas emissions.

Expansion of the reservoir will not be directly growth inducing. While the current expansion will improve water supply reliability for CCWD, it will not provide a substantial new or additional source of supply. CCWD has prepared a long-term future water supply plan and Delta water supply is a central component. The potential environmental effects of this future planned growth have been evaluated and fully disclosed in a separate CEQA environmental document that was prepared for CCWD’s long-term water supply plan.

Significant and Unavoidable Impacts

Expanding the reservoir from 100 TAF to 160 TAF will inundate an additional 400 acres, increasing the area of inundation from 1,500 acres to 1,900 acres. The 160 TAF expanded reservoir will inundate an area of grassland along the west side of the reservoir that could be used as a movement corridor by the San Joaquin kit fox, an endangered species. There is no documented use of this grassland area by kit fox (surveys for kit fox activity within the Los Vaqueros Watershed were conducted prior to reservoir construction and have been conducted annually following reservoir completion since 1998). However, because it is suitable habitat for the kit fox, the grassland along the west side of reservoir is considered to be a potential movement corridor and loss of much or all of this grassland due to reservoir inundation is, therefore, considered to be a significant and unavoidable impact of the expansion to 160 TAF. The current expansion also isolates two areas of habitat related to the corridor. CCWD has mitigated for the loss of this habitat, but the corridor loss is considered a significant, unavoidable impact. The further expansion of the reservoir from 160 TAF to 275 TAF would not result in

further loss of this corridor because it is already considered lost with the 160 TAF expansion.

7.3.2 Future Expansion

Construction Impacts

As with the current expansion, many environmental impacts identified for the future expansion to 275 TAF would be associated with construction and would cease once construction is completed. These impacts would occur over a 3-year period. In addition to the construction impacts described previously, the future expansion would also result in temporary impacts to agricultural resources and fish habitat and would conflict with the Byron Airport Land Use Compatibility Zones height limits. There would be no significant and unavoidable construction impacts for the future expansion.

Operational Impacts

Operation of the future expansion as evaluated in the LVE EIS/EIR would not result in significant impacts related to water supply, noise, air quality pollutant emissions, or public safety risks. Evaluation of potential impacts associated with operation of Los Vaqueros Reservoir to support EBMUD water supply needs were not included in the LVE EIS/EIR and would require further analysis.

Siting/Footprint Impacts

In addition to the impacts described for the current expansion, facility siting/footprint impacts resulting from the future expansion would include conversion of farmland to non-agricultural uses and the potential for increased exposure to hazards. As with the current expansion, impacts to biological and cultural resources would be mitigated to less-than-significant levels. Unlike the current expansion, the future expansion would not result in significant visual quality and character impacts.

Two footprint impacts were found to be significant and unavoidable—the loss of a potential regional movement corridor for the San Joaquin kit fox and the loss of up to 22 acres designated as Important Farmland by the state. These significant and unavoidable impacts are discussed below under “Significant and Unavoidable Impacts.”

Additional Impact Discussions

Construction of the future expansion would occur for a longer duration than the current expansion—3 years as opposed to 18 months. However, operational emissions of greenhouse gas resulting from the purchase and use of additional electrical energy to support water diversion and delivery pumping through the expanded Los Vaqueros Reservoir system would be partially offset by reductions in water pumping elsewhere, specifically through the state and/or federal Delta water export systems.

Significant and Unavoidable Impacts

Reservoir inundation to 275 TAF would increase the area of inundation to 2,500 acres; approximately 1,000 acres over existing conditions and 600 acres over conditions proposed under the current expansion. Additionally, construction of the pump station under the future expansion would permanently convert 21.5 acres designated as Important Farmland by the state. Although the pump station would occupy a relatively small amount of land, the impact on Important Farmland is considered significant and unavoidable.

7.4 Program-Level Impact Analysis of the System Improvements Required for EBMUD Participation in Los Vaqueros Reservoir Expansion

This section analyzes the impacts of the system improvements required for EBMUD participation in the Los Vaqueros Reservoir expansion.

7.4.1 Environmental Setting

a. Hydrology, Groundwater, and Water Quality

Regional Setting

The EBMUD service area regional setting information presented in the 2009 PEIR, beginning on page 4.2.A-1, is applicable to an analysis of the impacts of the new facilities required for EBMUD participation in the current expansion of Los Vaqueros Reservoir.

Current Expansion Options

A discussion of all three options for participation in the current expansion is provided together, as all three have similar settings for hydrology, groundwater, and water quality. All three would be implemented within the EBMUD service area. Water resources within the EBMUD service area are described in the regional setting.

The Contra Costa Canal, operated by the CCWD, runs parallel to Pleasant Hill Road between Boyd Road and Oak Park Boulevard, at which point it is oriented east-west. The Walnut Creek watershed drains the central region of Contra Costa County northward to Suisun Bay. The Current Expansion Options would be constructed in the Grayson Creek/Murderers Creek Sub-watershed. Almost every creek in the Cities of Walnut Creek and Pleasant Hill has been either channelized or undergrounded to control flooding and to allow development.

The pipeline included in the Treated Water - Boyd Road Intertie Option would be located in an area identified as being within the 100-Year Flood Zone. The flood zone is mapped crossing Geary Road (Belle Ditch) as well as Pleasant Hill Road (Murderers Creek)

along the proposed pipeline alignment. Neither the Treated Water - New Intertie Option nor the Untreated Water Option would be located within the 100-Year Flood Zone.

As noted above, the water provided from Los Vaqueros Reservoir or the Delta is not of a quality similar to the water EBMUD receives from the Mokelumne River. Additional treatment facilities would thus be necessary.

Future Expansion Option

The proposed water treatment facilities would be located on EBMUD property at an existing water treatment plant or in the vicinity of the Mokelumne Aqueducts. Facility location, configuration and sizing would all be dependent on project-level planning and environmental analysis.

The EBMUD service area regional setting information presented in the 2009 PEIR, beginning on page 4.2.A-1, is applicable to the Future Expansion Option facilities that would be located at the Walnut Creek East Portal.

b. Geology, Soils, and Seismicity

Geologic Hazards

The geologic hazards for the proposed facilities for the Current and Future Expansion Options would be the same as described under the geologic hazards discussion in the 2009 PEIR beginning on page 4.2.B-6.

Regional Setting

The regional setting of the proposed facilities for the Current and Future Expansion Options would be the same as described under the regional setting discussion of the San Francisco Bay Area in the 2009 PEIR, beginning on page 4.2.B-1.

Current Expansion Options

The pipelines, instrumentation and control equipment, and the pumping plant required for the Treated Water - Boyd Road Intertie Option, the Treated Water - New Intertie Option, and the Untreated Water Option would be installed within the City of Walnut Creek in the EBMUD service area. General geology, soils, and seismicity setting information within the EBMUD service area is described in the 2009 PEIR beginning on page 4.2.B-7.

Conceptual pipeline alignments and new facilities required for the Current Expansion Options would be installed along Pleasant Hill Road, Geary Road, and Larkey Lane, and west of the Walnut Creek Water Treatment Plant located at the southern terminus of Larkey Lane for the Treated Water - Boyd Road Intertie Option; and along Buena Vista Avenue (between Geary Road and Alvarado Avenue) and Geary Road (between Buena Vista Road and North Main Street) for the Treated Water - New Intertie Option. Portions

of Larkey Lane and Pleasant Hill Road cross the North Calaveras Fault extension. Additionally, a portion of Larkey Lane near the southern terminus at the EBMUD Water Treatment Plant crosses the South Hampton and Franklin Fault.¹

The majority of the pipeline alignments are not located in areas susceptible to liquefaction; however, a small portion of Pleasant Hill Road south of the intersection with Withers Avenue, and a small portion of Geary Road east of the intersection with Buena Vista Avenue have been designated as having high and low liquefaction susceptibility, respectively.²

The conceptual pipeline alignments are located outside of sloped areas and areas where previous landslides have occurred; however, the EBMUD Water Treatment Plant site, which is located at the southern terminus of Larkey Lane, is in an area containing slopes ranging from 15 to 49 percent where previous landslides have occurred.³

Future Expansion Option

The check valves and interconnection between the Mokelumne Aqueduct isolation valves required for the Future Expansion Option would be installed at the site of the existing EBMUD Water Treatment Plant within the City of Walnut Creek in the EBMUD service area. General geology, soils, and seismicity setting information in the EBMUD service area is described in the 2009 PEIR beginning on page 4.2.B-7. As discussed previously, the Water Treatment Plant site is not located within the trace of a fault or an area susceptible to liquefaction; however, it is located in an area containing slopes ranging from 15 to 49 percent where previous landslides have occurred.⁴

The proposed water treatment facilities would be located on EBMUD property at an existing water treatment plant or in the vicinity of the Mokelumne Aqueducts. Facility location, configuration and sizing would all be dependent on project-level planning and environmental analysis.

¹ City of Walnut Creek, General Plan 2025, Chapter 6: Safety and Noise, Figure 2: Area Faults, April 4, 2006.

² Ibid, Figure 3: Liquefaction Susceptibility.

³ Ibid, Figure 4: Mapped Landslides and Slopes Greater than 15%.

⁴ Ibid, Figure 2: Area Faults, Figure 3: Liquefaction Susceptibility, and Figure 4: Mapped Landslides and Slopes Greater than 15%.

c. Biological Resources

Sensitive Natural Communities

The sensitive natural communities for the Current and Future Expansion Options would be the same as described under the Sensitive Natural Communities discussion in the 2009 PEIR, beginning on page 4.2.C-2.

Regional Setting

The proposed facilities required for the Current and Future Expansion Options would be located within the EBMUD service area and the Upcountry area. Please refer to the regional setting information for these areas presented in the 2009 PEIR beginning on pages 4.2.C-1 and 4.2.C-2, respectively.

d. Land Use and Recreation

Regional Setting

The EBMUD service area regional setting information presented in the 2009 PEIR (page 4.2.D-1) is applicable to the facilities proposed under the Current Expansion Options.

Current Expansion Options

Treated Water – Boyd Road Intertie Option

The pipeline, instrumentation and control equipment, and pumping plant required for the Treated Water - Boyd Road Intertie Option would be installed within the EBMUD service area. Land uses and recreation within the EBMUD service area are described in the regional setting.

The Treated Water - Boyd Road Intertie Option would be located in the Cities of Pleasant Hill and Walnut Creek in Contra Costa County. Land uses along the pipeline alignment and at the location where instrumentation and control equipment and the pumping plant would be installed are primarily characterized as single-family residential. Several schools and day care centers, churches, and restaurants are also located in the vicinity. Mixed-use commercial land uses can also be found at the corner of Geary and Pleasant Hill Roads. Several sensitive receptors are located directly along the conceptual pipeline alignment.

Recreation features located in the vicinity of the conceptual pipeline alignment include the Contra Costa Canal Trail, Briones-Mt. Diablo Regional Trail, Acalanes Ridge Open Space, Larkey Park Swim Center, and Dinosaur Hill Park. The Contra Costa Canal Trail crosses the conceptual pipeline alignment at Pleasant Hill Road, just north of Geary Road. The Briones-Mt. Diablo Regional Trail crosses the conceptual pipeline alignment at Larkey Lane and 2nd Avenue. Larkey Park Swim Center is located adjacent to the conceptual pipeline alignment between Larkey Lane and Buena Vista Avenue, just south of Geary Road.

Treated Water – New Intertie Option

The pipelines and new intertie pumping plant required for the Treated Water - New Intertie Option would be implemented within the EBMUD service area. Land uses and recreation within the EBMUD service area are described in the regional setting.

The Treated Water - New Intertie Option would be located in the City of Walnut Creek in Contra Costa County. The conceptual pipeline alignment would pass through single and multi-family residential land uses, with some retail and commercial uses located in the vicinity of Geary Road near North Main Street. Several sensitive receptors are located directly along the conceptual pipeline alignment.

Both the Contra Costa Canal Trail and Briones-Mt. Diablo Regional Trail cross the conceptual pipeline alignment at Geary Road, just east of Buena Vista Avenue. Larkey Park Swim Center is located adjacent to the conceptual pipeline alignment between Larkey Lane and Buena Vista Avenue, just south of Geary Road. Larkey Community Park is located just east of Buena Vista Avenue and the Larkey Park Swim Center.

Untreated Water Option

The check valves and interconnection between the Mokelumne Aqueduct isolation valves required for the Untreated Water Option would be implemented within the EBMUD service area. Land uses and recreation within the EBMUD service area are described in the regional setting.

The Untreated Water Option facilities would be constructed in the City of Walnut Creek, just west of the Walnut Creek Water Treatment Plant at the Walnut Creek East Portal site in Contra Costa County. This site is surrounded by open space and is located within the Acalanes Ridge Open Space area, which is surrounded by single-family residential land uses. The Briones-Mt. Diablo Regional Trail runs within approximately 100 feet of the proposed site to the southeast, and the Ridge Top Trail, Camino Verde Trail, and Sousa Trail also traverse the Acalanes Ridge Open Space. The closest sensitive receptors are located approximately 0.65 mile from the proposed site.

Future Expansion Option

The Upcountry and EBMUD service area regional setting information presented in the 2009 PEIR (pages 4.2.D-1-4.2.D-2) is applicable to the Future Expansion Option facilities.

The proposed treatment facilities would be located on EBMUD property at an existing water treatment plant or in the vicinity of the Mokelumne Aqueducts. Facility location, configuration and sizing would all be dependent on project-level planning and environmental analysis. Land uses in these areas include agriculture, open space, and residential.

The EBMUD service area regional setting information presented in the 2009 PEIR (page 4.2.D-1) is applicable to the Future Expansion Option facilities that would be located at the Walnut Creek East Portal. More site-specific setting information regarding land uses and recreation is provided above under the Untreated Water Option.

e. Transportation

Regional Setting

Current Expansion Options

The EBMUD service area regional setting information presented in the 2009 PEIR, beginning on page 4.2.E-1, is applicable to the facilities proposed under the Current Expansion Options.

Treated Water – Boyd Road Intertie Option and Treated Water – New Intertie Option

The pipeline, instrumentation and control equipment, and portable pump required for the Treated Water - Boyd Road Intertie Option would be installed within the EBMUD service area. Transportation within the EBMUD service area is described in the regional setting.

The most direct access to the conceptual pipeline alignments and equipment from Highway I-680 is provided via Sunnyvale Avenue or Geary Road. Geary Road includes on-road bicycle lanes, as does a portion of Pleasant Hill Road. According to the Pleasant Hill General Plan, Geary Road is classified as both a Route of Regional Significance and a truck route.

The County Connection (i.e., Central Contra Costa Transit Authority [CCCTA]) 7 Bus operates along the New Intertie Option's conceptual pipeline alignment on Geary Road and Buena Vista Avenue. The Pleasant Hill BART stop is located east of the pipeline alignment on the east side of I-680.

Untreated Water Option

The check valves and interconnection between the Mokelumne Aqueduct isolation valves required for the Untreated Water Option would be installed within the EBMUD service area. Transportation within the EBMUD service area is described in the regional setting.

The most direct access to the proposed facilities from Highway I-680 is provided via San Luis Road and South Larkey Lane. The County Connection 7 Bus crosses San Luis Road at Buena Vista Avenue.

Future Expansion Option

The Upcountry and EBMUD service area regional setting information presented in the 2009 PEIR (beginning on page 4.2.E-3 and 4.2.E-1, respectively) is applicable to the Future Expansion Option facilities.

The proposed water facilities would be located on EBMUD property at an existing water treatment plant or in the vicinity of the Mokelumne Aqueducts. Facility location, configuration and sizing would all be dependent on project-level planning and environmental analysis.

The EBMUD service area regional setting information presented in the 2009 PEIR, beginning on page 4.2.E-1, is applicable to the Future Expansion Option facilities that would be located at the Walnut Creek East Portal. More site-specific setting information regarding transportation is provided above under the Untreated Water Option.

f. Air Quality

Regional Setting

The Upcountry and EBMUD service area regional setting information presented in the 2009 PEIR is applicable to the Future Expansion Option facilities.

The new water treatment facilities would be located on EBMUD property at an existing water treatment plant or in the vicinity of the Mokelumne Aqueducts. Facility location, configuration and sizing would all be dependent on project-level planning and environmental analysis.

Please refer to the Upcountry (Mountain Counties Air Basin) section in the 2009 PEIR Air Quality section for specific information regarding the existing air quality conditions of the area. Ambient air quality data and attainment status of the region is provided in the Air Quality setting (Section 4.2.F). Please see Appendix D of the 2009 PEIR for specific information regarding the applicable air district and criteria air pollutant inventories for the region.

g. Noise

Regional Setting

The proposed facilities required for the Current and Future Expansion Options would be located within the EBMUD service area and the Upcountry area. Please refer to the regional setting information for these areas presented in the 2009 PEIR beginning on pages 4.2.G-1 and 4.2.G-3, respectively.

Current Expansion Options

Treated Water – Boyd Intertie Option

The conceptual pipeline for the Treated Water - Boyd Road Intertie Option would be installed along Pleasant Hill Road, Geary Road, and Larkey Lane (between Boyd Road and Alvarado Avenue) and the instrumentation, control equipment, and pumping plant would be installed at the intersection of Boyd Road and Pleasant Hill Road in Walnut Creek.

Existing sources of noise in this area include traffic along roadways and neighborhood noise, including Larkey Park located on Larkey Lane between 1st and 2nd Avenues. The Contra Costa County Fire Protection District Station #2 (2010 Geary Road) is also an existing noise source in the area. Noise-sensitive land uses along these streets and intersections are primarily residential. Additional noise-sensitive land uses include three churches/religious centers: the Church of Jesus Christ of Latter Day Saints (555 Boyd Road), the First Christian Church (2115 Pleasant Hill Road), and the Oak Park Christian Center (2073 Oak Park Boulevard); and six schools/learning centers: the Spectrum Center - Pleasant Hill Satellite Campus (3100 Oak Park Boulevard), Pleasant Hill Elementary School (2097 Oak Park Boulevard), Play and Learn School (1898 Pleasant Hill Road), Mary Jane's Preschool (2902 Vessing Road), Love and Care Learning Center (1985 Geary Road), and Contra Costa Christian High School (2721 Larkey Lane).

Treated Water – New Intertie Option

The conceptual pipeline for the Treated Water - New Intertie Option would be installed along Buena Vista Avenue (between Geary Road and Alvarado Avenue) and Geary Road (between Buena Vista Road and North Main Street) and the new intertie pumping plant would be located in the vicinity of the intersection of Geary Road and Buena Vista Road in Walnut Creek.

Existing sources of noise in this area include traffic along roadways, including the County Connection 7 bus route, and neighborhood noise, including Larkey Park located along Buena Vista Avenue between 1st and 2nd Avenues. Noise-sensitive land uses along these streets and intersections are primarily residential. Additional noise-sensitive land uses include two day cares/child development centers: Kid Time Inc. Day Care Center (1547 Geary Road) and New World Child Development Center (1919 Geary Road), and three churches/religious centers: Unity of Walnut Creek Memorial Center (1871 Geary Road), the Church of Jesus Christ of Latter Day Saints (1786 2nd Avenue), and the co-located Walnut Creek Islamic Center and Contra Costa Korea Presbyterian Church (2449 Buena Vista Ave).

Untreated Water Option

The check valves and interconnection between the Mokelumne Aqueduct isolation valves required for the Untreated Water Option would be installed on EBMUD property immediately west of the Walnut Creek Water Treatment Plant located at the southern terminus of Larkey Lane, approximately 0.2 mile west of its intersection with Alfred Avenue.

Existing sources of noise in this area include neighborhood noise and the water treatment plant. Noise-sensitive land uses in the vicinity include residences and Saint Stephen's Catholic Church (1101 Keaveny Court).

Setting for Future Expansion Option

The check valves and interconnection between the Mokelumne Aqueduct isolation valves required for the Untreated Water Option would be installed on EBMUD property immediately west of the Walnut Creek Water Treatment Plant located at the western terminus of Larkey Lane, approximately 0.2 mile west of its intersection with Alfred Avenue.

Existing sources of noise in this area include neighborhood noise and the water treatment plant. Noise-sensitive land uses in the vicinity include residences and Saint Stephen's Catholic Church (1101 Keaveny Court).

The new water treatment facilities would be located on EBMUD property at an existing water treatment plant or in the vicinity of the Mokelumne Aqueducts. Facility location, configuration and sizing would all be dependent on project-level planning and environmental analysis.

h. Cultural Resources

Regional Setting

The proposed facilities for the Current and Future Expansion Options would be located within the EBMUD service area and the Upcountry area. Please refer to the regional setting information for these areas presented in the 2009 PEIR beginning on pages 4.2.H-1 and 4.2.H-3, respectively.

The information identified below on potential sites is based on a general understanding of the historical or prehistorical activities that occurred at proposed facility locations. Cultural resources database searches and literature reviews will be conducted for specific facilities upon initiation of project-specific environmental review.

Current Expansion Options

The facilities required for the Current Expansion Options would be located at EBMUD's Walnut Creek Water Treatment Plant and along public roadways. Additionally, previous records review and site reconnaissance did not reveal any cultural resources at the water treatment plant.⁵

Future Expansion Option

The check valves and interconnection between the Mokelumne Aqueduct isolation valves required for the Untreated Water Option would be located at EBMUD's Walnut

⁵ ESA, EBMUD WTTIP Environmental Impact Report, June 2006, page 3.7-19.

Creek Water Treatment Plant. Previous records review and site reconnaissance did not reveal any cultural resources at the water treatment plant.⁶

The new water treatment facilities would be located on EBMUD property at an existing water treatment plant or in the vicinity of the Mokelumne Aqueducts. Facility location, configuration and sizing would all be dependent on project-level planning and environmental analysis. Because the location of the future treatment facilities is not known, these sites may contain a variety of known or unknown prehistoric and historic resources. Because early historic settlement and most prehistoric settlement are closely linked to the proximity of a water source, areas located near natural water sources, such as the Mokelumne River, are considered highly sensitive.

i. Visual Resources

Regional Setting

Current Expansion Options

The EBMUD service area regional setting information presented in the 2009 PEIR, beginning on page 4.2.I-1, is applicable to the facilities proposed under the Current Expansion Options. Scenic routes within the EBMUD service area are listed in the PEIR in Table 4.2.I-1 (page 4.2.I-2).

Treated Water – Boyd Road Intertie Option

The pipeline, instrumentation and control equipment, and pumping plant required for the Treated Water - Boyd Road Intertie Option would be installed within the EBMUD service area. Visual features within the EBMUD service area are described in the regional setting.

The visual quality of the Treated Water - Boyd Road Intertie Option vicinity is primarily residential and flat, with tree-lined streets and one- and two-story homes. Views of Mount Diablo, which is a major landmark and natural resource for Central Contra Costa County as well as for the wider San Francisco Bay Area, and minor hills are available from both sides of Pleasant Hill Road along the proposed pipeline alignment. The pipeline alignment also follows Geary Road, which is characterized as a scenic corridor.

Treated Water – New Intertie Option

The pipelines and new intertie pumping plant required for the Treated Water - New Intertie Option would be implemented within the EBMUD service area. Visual features within the EBMUD service area are described in the regional setting.

The visual quality of the Treated Water - New Intertie vicinity is primarily residential and flat, with tree-lined streets and one- and two-story homes. The intersection of North

⁶ ESA, EBMUD WTTIP Environmental Impact Report, June 2006, page 3.7-19.

Main Street at Geary Road is characterized as an auto-oriented gateway into Walnut Creek. This intersection is urban in character, focused on major intersections and surrounded by built development. Views of Mount Diablo are available along Buena Vista Avenue; Geary Road, which runs along the pipeline alignment, is characterized as a scenic corridor.

Untreated Water Option

The check valves and interconnection between the Mokelumne Aqueduct isolation valves required for the Untreated Water Option would be installed within the EBMUD service area. Visual features within the EBMUD service area are described in the regional setting.

The visual quality of the Untreated Water Option is primarily open space. The Walnut Creek East Portal location is surrounded by mature trees and is fenced. Water conveyance infrastructure consisting of large white pipes dominates the site.

Future Expansion Option

Regional Setting

The Upcountry and EBMUD service area regional setting information presented in the 2009 PEIR (beginning on pages 4.2.I-2 and 4.2.I-1, respectively) is applicable to the Future Expansion Option facilities.

Setting for Future Expansion Option

The new water treatment facilities would be located on EBMUD property at an existing water treatment plant or in the vicinity of the Mokelumne Aqueducts. Facility location, configuration and sizing would all be dependent on project-level planning and environmental analysis. Please refer to the regional setting for a discussion of visual features.

The EBMUD service area regional setting information presented in the 2009 PEIR, beginning on page 4.2.I-1, is applicable to the Future Expansion Option facilities that would be located at the Walnut Creek East Portal. More site-specific setting information regarding visual features is provided above under the Untreated Water Option.

j. Hazards

Regional Setting

The proposed facilities for the Current and Future Expansion Options would be located within the EBMUD service area and the Upcountry area. Please refer to the regional setting information for these areas presented in the 2009 PEIR beginning on pages 4.2.J-1 and 4.2.J-2, respectively.

A hazardous materials data search has not been conducted for the specific locations of the EBMUD facilities required for the Current and Future Expansion Options. An assessment of hazardous materials would be conducted for each component upon initiation of project-specific environmental review. The information presented below is based on a search of the California Environmental Protection Agency's Cortese List databases (the Department of Toxic Substance Control's Envirostor database and the State Water Resource Control Board's Geotracker database).⁷

Current Expansion Options

The facilities required for the Current Expansion Options would be located within the City of Walnut Creek. The Envirostor database did not contain any hazardous waste and substances sites in Walnut Creek.⁸ Sites listed by the Geotracker database within 0.5 mile of the facilities proposed under the Treated Water Options include leaking underground storage tanks, permitted underground storage tanks, a release of gasoline, and a pesticide/insecticide/rodenticide release; no sites were listed within 0.5 mile of the location of the proposed Treated Water Option facilities.⁹

The locations of the EBMUD facilities required for the Current Expansion Options are located within areas designated by the California Department of Forestry and Fire Protection (CDF) as having a moderate to very high threat from wildland fire.¹⁰ Emergency access is considered good in all areas of Walnut Creek.¹¹

Future Expansion Options

The check valves and interconnection between the Mokelumne Aqueduct isolation valves required for the Untreated Water Option would be located at EBMUD's Walnut Creek Water Treatment Plant. Previous records review and site reconnaissance did not reveal any hazardous waste or substances sites at the water treatment plant.¹²

The Walnut Creek Water Treatment Plant is located within an area designated as having a very high threat from wildland fire.¹³ Emergency access to the site is considered good.¹⁴

⁷ Cal/EPA, Cortese List Website, Available at: <http://www.calepa.ca.gov/sitecleanup/corteselist/default.htm>, Accessed November 3, 2011.

⁸ DTSC, Envirostor Website, Available at : http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm, Accessed November 3, 2011.

⁹ SWRCB, GeoTracker Website, Available at: <https://geotracker.waterboards.ca.gov/>, Accessed November 3, 2011.

¹⁰ Ibid, Figure 7: Wildland-Urban Interface Fire Threat.

¹¹ Ibid, page 6-12.

¹² ESA, EBMUD WTTIP Environmental Impact Report, June 2006, page 3.7-19.

¹³ Ibid, Figure 7: Wildland-Urban Interface Fire Threat.

¹⁴ Ibid, page 6-12.

The new water treatment facilities would be located on EBMUD property at an existing water treatment plant or in the vicinity of the Mokelumne Aqueducts. Facility location, configuration and sizing would all be dependent on project-level planning and environmental analysis.

k. Public Services, Utilities and Energy

Regional Setting

The regional setting information presented in the 2009 PEIR, beginning on page 4.2.K-1, is applicable to the facilities required under the Current and Future Expansion Options.

Current Expansion Options

Treated Water – Boyd Road Intertie Option & Treated Water – New Intertie Option

The pipelines, instrumentation and control equipment, and pumping plants required for the Treated Water Options would be installed within the EBMUD service area. Public services, utilities, and energy use within the EBMUD service area are described in the regional setting.

All of the facilities proposed as part of these options would be located in areas containing overhead transmission lines, fiber optic cables, telephone utilities, water, sewer, and storm drains, which are generally located in road rights-of-way. EBMUD is the agency responsible for water supply in the vicinity of the treated water options. EBMUD's Walnut Creek Water Treatment Plant, located south of the proposed facilities, has a design capacity of up to 80 million gallons per day (mgd). Central Contra Costa Sanitary District (CCCSD) provides wastewater collection and treatment for properties within the City of Walnut Creek and the surrounding area. The treatment plant, which is located in Martinez, has a treatment capacity of 55 mgd. Major storm drainage facilities throughout Contra Costa County are owned by the Contra Costa Flood Control District.

The Central Contra Costa Solid Waste Authority (CCCSWA) oversees solid waste collection, disposal, and recycling services in Walnut Creek. The CCCSWA has agreements with Pleasant Hill Bayshore Disposal (PHBD) for the collection, transfer, and disposal of residential and commercial solid waste, and with Valley Waste Management (VWM) for the curbside collection and marketing of residential recycling and used motor oil. Solid waste collected by PHBD is disposed of at the Keller Canyon Landfill.

Untreated Water Option

The check valves and interconnection between the Mokelumne Aqueduct isolation valves required for the Untreated Water Option would be implemented within the EBMUD service area. Public services, utilities, and energy within the EBMUD service area are described in the regional setting, and more site-specific setting information is provided above for the Treated Water Options. The facilities required for the Untreated

Water Option, however, would be located on EBMUD-owned land and would not be located along roadways containing utilities. The site contains water conveyance infrastructure that is part of the EBMUD water distribution system.

Future Expansion Option

The new water treatment facilities would be located on EBMUD property at an existing water treatment plant or in the vicinity of the Mokelumne Aqueducts. Facility location, configuration and sizing would all be dependent on project-level planning and environmental analysis. Please refer to regional setting for a discussion of public services, utilities, and energy.

The regional setting information presented in the 2009 PEIR, beginning on page 4.2.K-1, is applicable to the Future Expansion Option facilities that would be located at the Walnut Creek East Portal. More site-specific setting information regarding public services, utilities, and energy is provided above under the Untreated Water Option.

I. Environmental Justice

Regional Setting

The proposed facilities for the Current and Future Expansion Options would be located within the EBMUD service area and the Upcountry area. Please refer to the regional setting information for these areas presented in the 2009 PEIR beginning on pages 4.2.L-2 and 4.2.L-5, respectively.

Current Expansion Options

The characteristic economic and racial compositions of Contra Costa County within the Census tracts where the EBMUD facilities proposed under the Current Expansion Options would be located are presented in Tables 7-1 and 7-2.

Table 7-1: Household Income Profiles in the Vicinity of the Current Expansion Facilities

CONTRA COSTA COUNTY CENSUS TRACT	HOUSEHOLDS	MEDIAN HOUSEHOLD INCOME	FEDERALLY-DEFINED LOW INCOME LEVEL	PERCENT OF LOW INCOME HOUSEHOLDS
3250	2,032	\$82,083	\$65,666	49%
3260	1,321	\$118,594	\$94,875	38%
3400.01	2,391	\$73,561	\$58,849	51%
3400.02	3,177	\$108,087	\$86,469	47%
Total County	364,336	\$77,838	\$62,270	48%

Source: U.S. Census Bureau 2009, 2005-2009 American Community Survey 5-Year Estimates

Table 7-2: Population and Percentage Racial Composition in the Vicinity of the Current Expansion Facilities

CENSUS TRACT (POPULATION)	WHITE	AFRICAN AMERICAN	AMERICAN INDIAN AND ALASKA NATIVE	ASIAN	NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER	OTHER RACE	HISPANIC OR LATINO (OF ANY RACE)	TOTAL MINORITY
3250 (5,514)	4,862 (88.2%)	142 (2.6%)	92 (1.7%)	511 (9.3%)	35 (0.6%)	195 (3.5%)	601 (10.9%)	932 (16.9%)
3260 (3,437)	3,144 (91.5%)	43 (1.3%)	28 (0.8%)	312 (9.1%)	15 (0.4%)	67 (1.9%)	269 (7.8%)	293 (8.5%)
3400.01 (5,857)	4,617 (78.8%)	198 (3.4%)	97 (1.7%)	917 (15.7%)	23 (0.4%)	403 (6.9%)	884 (15.1%)	1,240 (21.2%)
3400.02 (7,000)	6,073 (86.8%)	88 (1.3%)	64 (0.9%)	909 (13%)	29 (0.4%)	132 (1.9%)	521 (7.4%)	927 (13.2%)
Total County (1,049,025)	665,881 (63.5%)	112,381 (10.7%)	17,327 (1.7%)	180,773 (17.2%)	10,153 (1.0%)	131,278 (12.5%)	255,560 (24.4%)	383,144 (36.5%)

Source: U.S. Census Bureau 2011, 2010 Census

Future Expansion Option

The characteristic economic and racial compositions of the Census tract where the proposed check valves and aqueducts interconnection would be located are presented in Tables 7-1 and 7-2.

The new water treatment facilities would be located on EBMUD property at an existing water treatment plant or in the vicinity of the Mokelumne Aqueducts. Facility location, configuration and sizing would all be dependent on project-level planning and environmental analysis.

7.4.2 Impacts and Mitigation Measures

a. Hydrology, Groundwater, and Water Quality

Issues Dismissed from Further Analysis

The Los Vaqueros Reservoir Expansion options would not place housing within any defined flood hazard area, nor would it expose people or housing structures to 100-year floods.

The Walnut Creek/Pleasant Hill area where the facilities for the Current Expansion Options are proposed is considered low risk for seiche, tsunami or mudflow.

Impact Discussion

Impact 5.2.A-1: Potential to degrade water quality from construction.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

As noted in Section 5.2.A of the 2009 PEIR, construction-related runoff could drain directly to surface water bodies, increasing turbidity and degrading water quality. Construction-related impacts associated with the degradation of water quality are considered ***potentially significant***. Implementation of Mitigation Measure 5.2.A-1a, which is set forth in the 2009 PEIR and requires compliance with general construction permit BMPs, would reduce these potential impacts from the construction of facilities required for participation in the Los Vaqueros Reservoir expansion to a level that is less than significant.

Please also refer to Impact 5.2.J-1 in Section 5.2.J, Hazards, for a discussion of impacts associated with the accidental spill of oil, grease, fuel, or other hazardous materials during construction activities.

Mitigation Measure 5.2.A-1a: Comply with State NPDES general construction permit.

This mitigation measure is set forth in detail on pages 5.2.A-4 through 5.2.A-5 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

Impact 5.2.A-2: Potential to degrade water quality from waste discharge.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

With the Treated Water Options, EBMUD would receive water from Los Vaqueros Reservoir that is treated by CCWD, and no new or expanded water treatment facilities would be required. Therefore, no increase in waste discharge would occur and *no impact* would occur.

With the Untreated Water Option, EBMUD would take untreated water from Los Vaqueros Reservoir and send it through the Mokelumne Aqueduct to an existing EBMUD raw water reservoir for treatment at an existing EBMUD water treatment facility, or it might be sent directly to one of EBMUD's in-line water treatment plants which receive water directly from an aqueduct. In this later case, additional treatment facilities would be required. The Future Expansion Option also would require new water treatment facilities. New water treatment facilities would generate liquid wastes during operation, which would be discharged to EBMUD's main wastewater treatment plant or to the local sanitary sewer system for treatment prior to discharge to a local surface water body.

All wastes would be treated to comply with individual treatment plant permit limits (set by the appropriate RWQCB) prior to discharge and would not exceed any discharge limits designed to protect water quality. Therefore, water quality impacts associated with the operation of new treatment facilities under the Untreated Water Option and the Future Expansion Option would be considered *less than significant*, and no mitigation is required.

Impact Significance: *Less than Significant*

Impact 5.2.A-7: Potential alteration of the existing drainage pattern or contribution to existing local or regional flooding.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Facilities developed as part of these options could be located within 100-year floodplains and would likely create new paved and impermeable surfaces. Sediment deposition occurring in or obstructing water flow to storm drains could also cause localized flooding. Because the amount of added impermeable surfaces is not currently known, impacts are considered *potentially significant*. Implementation of Mitigation Measure 5.2.A-7, which is described in the 2009 PEIR and requires compliance with general construction permit requirements regarding preparation and implementation of a SWPPP, would reduce

potential impacts to less-than-significant levels by requiring compliance with well-established best management practices to prevent significant increases in storm water runoff.

Potential impacts from pipelines would be considered *less than significant*, as ground cover or surface pavement above installed pipelines and facilities would be restored after construction is completed to maintain existing drainage patterns.

Mitigation Measure 5.2.A-7: Comply with NPDES general construction permit requirements including preparation and implementation of an SWPPP with Best Practices for control of storm water runoff.

This Mitigation Measure is set forth on page 5.2.A-17 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

b. Geology, Soils and Seismicity

Issues Dismissed from Further Analysis

The Current and Future Expansion Options would not involve the use of septic tanks or alternative waste disposal systems. As such, they would not result in soils incapable of supporting such tanks or systems. In addition, the proposed options would not involve the loss of any mineral resource. Therefore, no impacts related to these issues would occur.

Impact Discussion

Impact 5.2.B-1: Potential exposure of people or structures to geologic and seismic hazards.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

As noted in the analysis presented in Section 5.2.B of the 2009 PEIR beginning on page 5.2.B-2, site-specific impacts related to geologic and seismic hazards would depend on the locations and design of facilities. Non-seismic-related hazards including conditions resulting from landslides could damage facilities or harm people. Hazards such as fault rupture, strong ground shaking, secondary seismic effects, and landslides also have the potential to result in harm to people or facilities. Site-specific subsurface materials would determine susceptibility to geologic and soils hazards. Impacts related

to geology, soils, and seismicity would be considered *potentially significant*. Implementation of Mitigation Measures 5.2.B-1a and 5.2.B-1b, which are set forth on pages 5.2.B-3 through 5.2.B-4 of the 2009 PEIR and require studies and implementation of recommendations as well as an update to EBMUD earthquake preparedness and emergency response programs, would be required to reduce the potential for impacts to a less-than-significant level.

Mitigation Measure 5.2.B-1a: Complete project-specific geologic and geotechnical studies and implement recommendations.

Mitigation Measure 5.2.B-1b: Update the EBMUD earthquake preparedness and emergency response program.

These mitigation measures are set forth in detail on pages 5.2.B-3 through 5.2.B-4 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

Impact 5.2.B-2: Potential erosion and loss of topsoil during construction.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Construction of the new facilities required for EBMUD participation in the Los Vaqueros Reservoir expansion would involve earthmoving activities, and as noted in Section 5.2.B.4 of the 2009 PEIR beginning on page 5.2.B-4, this could cause soil erosion. Impacts associated with erosion and loss of topsoil would be *potentially significant*. Implementation of Mitigation Measure 5.2.B-2, which requires implementation of a SWPPP, would reduce this impact to a less-than-significant level.

Mitigation Measure 5.2.B-2: Implement Stormwater Pollution Prevention Plan (SWPPP).

Impact Significance After Mitigation: *Less than Significant*

c. Biological Resources

Issues Eliminated from Further Analysis

The proposed facilities for the Current and Future Expansion Options would be located on existing EBMUD property or along public road rights-of-way. Therefore, they would not affect sensitive natural communities, including wetlands or waters under the jurisdiction of the U.S. Army Corps of Engineers and the State of California, special-status plant species and communities, protected trees, or special-status invertebrates or their habitats. In addition, the proposed facilities would not affect fish and aquatic habitats, or result in entrainment of special-status fish into pumps or intake pipes. Because the proposed facilities would not affect any waterways, they would not reduce surface water quality or disrupt downstream flow releases. No further discussion of these issues is required.

Impact 5.2.C-4: Potential disturbance to or loss of special-status reptiles and amphibians, and their habitat or critical habitat.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Special-status reptiles and/or amphibians and their habitat and/or critical habitat have been identified as having potential to occur within the locations of the proposed facilities. Special-status reptiles and amphibians with the potential to occur in the locations of the proposed facilities include Alameda whipsnake, western/northwestern pond turtle, western spadefoot toad, California red-legged frog, foothill yellow-legged frog, and California tiger salamander. If special-status reptiles and/or amphibians, their habitat and/or critical habitat occur in areas where construction would occur, the proposed projects would have a ***potentially significant*** impact. Implementation of Mitigation Measures 5.2.C-4a through 5.2.C-4c, which require a habitat assessment, pre-construction surveys, and avoidance of habitat and measures to minimize impacts, would reduce potential impacts to less-than-significant levels. Additional measures to further reduce impacts may also be identified at the project level.

Mitigation Measure 5.2.C-4a: Conduct habitat assessment.

Mitigation Measure 5.2.C-4b: Conduct pre-construction surveys.

Mitigation Measure 5.2.C-4c: Avoid critical habitat and areas with special-status reptiles and amphibians, or implement measures to minimize impacts.

These mitigation measures are set forth on pages 5.2.C-8 through 5.2.C-9 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

Impact 5.2.C-5: Potential disturbance to or loss of nesting birds.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Several special-status and common bird species have the potential to nest in existing structures or vegetation, including trees, shrubs, ruderal habitats, or grassland within the locations of the proposed facilities. Any removal of such vegetation, buildings, bridges or other structures, grading, or construction activities in the vicinity of active passerine or non-passerine land bird nests, or active raptor nests, or western burrowing owl burrows, could result in nest abandonment, nest failure, or premature fledging. Further, removal of historic nest trees should be avoided. Raptors tend to cycle through different nest trees each year, which helps reduce the buildup of parasites.

Destruction or disturbance of active nests would be in violation of the Migratory Bird Treaty Act (MBTA) and the California Department of Fish and Game Code. Such disturbance would be considered a ***potentially significant*** impact. Implementation of Mitigation Measures 5.2.C-5a through 5.2.C-5d, which require a habitat assessment and surveys, avoidance of construction during nesting seasons, establishment of buffer zones, and monitoring of nests, would reduce potential impacts to less-than-significant levels.

Mitigation Measure 5.2.C-5a: Conduct habitat assessment and surveys.

Mitigation Measure 5.2.C-5b: Avoid construction during nesting season or conduct additional surveys.

Mitigation Measure 5.2.C-5c: Establish a buffer zone around nests during construction.

Mitigation Measure 5.2.C-5d: Monitor active nests for bird activity.

These mitigation measures are set forth on pages 5.2.C-10 and 5.2.C-11 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

Impact 5.2.C-6: Potential disturbance to or loss of special-status bat species and roosting habitat.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Existing buildings, other structures such as bridges, and mature trees and snags located within the sites of the proposed facilities provide potential roosting habitat for special-status bat species. If special-status bats are found roosting within the locations of the proposed project(s), destruction or disturbance of roosting sites could have a ***potentially significant*** impact. Implementation of Mitigation Measures 5.2.C-6a through 5.2.C-6d, which require surveys, avoidance of active maternity roosts, eviction prior to demolition activities and creation of replacement roosts, would reduce potential impacts to less-than-significant levels.

Mitigation Measure 5.2.C-6a: Conduct pre-construction surveys.

Mitigation Measure 5.2.C-6b: Avoid active maternity roosts.

Mitigation Measure 5.2.C-6c: Evict bats prior to demolition activities.

Mitigation Measure 5.2.C-6d: Create replacement roosts.

These mitigation measures are set forth on page 5.2.C-12 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

Impact 5.2.C-7: Potential disturbance to or loss of other special-status mammals.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Suitable habitat for special-status mammals may be present within the locations of the proposed facilities. Special-status mammals include the American badger and San Joaquin pocket mouse. If suitable habitat is present within the proposed project(s), destruction or disturbance of this habitat could have a ***potentially significant*** impact. Implementation of Mitigation Measures 5.2.C-7a through 5.2.C-7c would reduce potential impacts to less-than-significant levels.

Mitigation Measure 5.2.C-7a: Conduct a habitat assessment.

Mitigation Measure 5.2.C-7b: Conduct pre-construction surveys.

Mitigation Measure 5.2.C-7c: Avoid special-status mammal habitat; if avoidance is not feasible, then consult with USFWS and CDFG to determine mitigation measures.

These mitigation measures are set forth on pages 5.2.C-13 through 5.2.C-14 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

d. Land Use and Recreation

Issues Dismissed from Further Analysis

New facilities proposed under the Current and Future Expansion options would be developed in areas that are generally compatible with existing land uses (e.g., the treatment facilities would be co-located with existing EBMUD facilities; pipelines and interties would be buried). As such, proposed facilities would not physically divide established communities.

Additionally, the facilities required for participation in the Los Vaqueros Reservoir expansion would not increase the use of existing parks or other recreational facilities

such that substantial physical deterioration of the facility would occur or be accelerated, nor would they involve the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

No further discussion of these issues is required.

Impact Discussion

Consistency with Relevant Plans, Policies and Regulations

Affected jurisdictions have plans and policies that guide development within their boundaries for the protection of environmental resources. Appendix B of the 2009 PEIR summarizes the relevant goals and policies from general plans for jurisdictions that would be potentially affected by the new facilities that would be required for EBMUD participation in the Los Vaqueros Reservoir Expansion. It is expected that the new facilities would generally conform to general plan policies; however, as locations for many of the proposed facilities have not yet been determined, further site-specific environmental review will be required to determine whether any conflicts to goals, policies, and programs of affected jurisdictions would occur.

5.2.D-1: Potential reduction of agricultural productivity and conversion of farmland to non-agricultural uses.

The facilities required for the Current Expansion Options would not involve construction in agricultural areas.

Future Expansion Option

The proposed treatment facilities would be at existing water treatment plants or other EBMUD property and would not disrupt agricultural operations. Therefore, no impact on agricultural operations would occur.

Impact Significance: *No Impact*

5.2.D-2: Potential impairment of recreation facilities and activities.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Depending on the location of the proposed facilities (e.g., pipelines, intertie, pump stations, treatment facilities), recreation may be affected. Pipelines would be located within existing roadways and easements. Several recreational facilities (e.g., trails) cross the proposed pipeline alignments. These facilities would be temporarily disrupted during construction and may also be damaged during facility installation. Such impacts on recreational resources would be considered *potentially significant*. Implementation of Mitigation Measure 5.2.D-2a, which requires repair and reopening of affected recreational facilities, would reduce potential impacts to a level that is less than significant.

Treated Water Options

The Treated Water Options would be constructed adjacent to several trails and parks/recreation centers. The Contra Costa Canal Trail and Briones-Mt. Diablo Regional Trail cross the proposed pipeline alignment at Geary Road, just east of Buena Vista Avenue. Hiking, biking, and use of recreation centers and parks could be temporarily affected by construction activities. These disturbances may include trail re-routing, hiking restrictions, noise, and traffic. These temporary effects may displace some hikers, bikers, and other recreationists to other facilities affording a similar experience. As the conceptual pipeline alignment would cross two trails which may be damaged during the course of pipeline and facility installation, the potential impacts of constructing the Treated Water Options would be *potentially significant*. Implementation of Mitigation Measure 5.2.D.2a would reduce this impact to a less-than-significant level.

In the long-term, the presence of the underground pipeline, pump, and intertie facilities would not affect recreational uses in the area. The potential impacts of operating the Treated Water Options would be *less than significant*.

Untreated Water Option

Hiking opportunities along the Briones-Mt. Diablo Regional Trail, as well as several of the trails that run through the Acalanes Ridge Open Space, could be temporarily affected by construction activities at the Walnut Creek East Portal. These disturbances may include trail re-routing, hiking restrictions, noise, and traffic. These temporary effects may displace some hikers to other hiking trails affording a similar experience. In the long-term, the presence of the check valve replacement and Mokelumne Aqueduct interconnection at the Walnut Creek East Portal would not affect recreational uses in the area. Therefore, the potential impacts of constructing and operating the Untreated Water Option would be *less than significant*.

Future Expansion Option

The new water treatment facilities would be located on EBMUD property at an existing water treatment plant or in the vicinity of the Mokelumne Aqueducts. Therefore, the

potential impacts of constructing and operating these facilities would be *less than significant*.

Please also see the Untreated Water Option discussed, above, regarding the impacts of check valve replacement and Mokelumne Aqueduct interconnection at the Walnut Creek East Portal.

Mitigation Measure 5.2.D-2a: Repair and reopen affected recreational facilities.

This mitigation measure is set forth on page 5.2.D-7 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

e. Transportation

Issues Dismissed from Further Analysis

The construction of the facilities associated with the Current and Future Expansion Options is not expected to change air traffic patterns, even if located in proximity to airports. Facilities located within public rights-of-way would be buried (i.e., pipelines), and as such would not include any design features that would increase hazards. In addition, no rail tracks would be crossed during the construction of pipelines, and therefore rail operations would not be affected.

In addition, components would not have any long-term conflict with any policies, plans, or programs supporting alternative transportation (please see Appendix B of the 2009 PEIR for a summary of general plans and policies). No further discussion of the above issues is provided.

Impact Discussion

Impact 5.2.E-1: Potential reduction of the number or available width of travel lanes on roads from construction, resulting in temporary disruption of traffic flows, increases in traffic congestion, and access to adjacent land uses for both general and emergency access.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Construction of facilities associated with the Current and Future Expansion Options would require installation of above-ground structures (e.g., treatment facilities) as well as

buried pipelines. Only construction of the Treated Water Options, however, would occur within road rights-of-way, which could lead to short-term traffic delays for vehicles traveling past construction zones, as well as temporarily limit access to adjacent land uses. For the purposes of this program-level analysis, impacts associated with traffic delays and restrictions to adjacent uses would be considered *potentially significant*. Implementation of Mitigation Measure 5.2.E-1 would reduce this impact to a less-than-significant level.

Treated Water Options

Installation of pipelines for both Treated Water Options would occur within road rights-of-way, which could lead to short-term traffic delays for vehicles traveling past construction zones, as well as temporarily limit access to adjacent land uses. Pipeline installation would occur within public roadways that extend through a variety of land uses, including primarily residential and commercial uses. As described in the 2009 PEIR beginning on page 5.2.E-2, because pipeline construction would require space to accommodate open trenches/pits and staging areas for materials and equipment, the travel width of roadways would likely be reduced, thus resulting in potential traffic delays within construction zones. Lane blockages or street closures during pipeline installation could also reduce curb parking, delay emergency access, or limit access to adjacent land uses. In addition, the reduction in travel lanes could result in a shift in traffic circulation patterns to adjacent and parallel streets.

To the extent feasible, two-way traffic would be maintained on all roadways. However, on roadways with restricted travel widths, alternate one-way travel may be required. If sufficient road width is not available, complete closure of roads may be required. Impacts associated with traffic delays and lane or road closures (although temporary) would be *potentially significant*. Implementation of Mitigation Measure 5.2.E-1 would reduce this impact to a less-than-significant level.

Untreated Water Option

Construction of the facilities associated with the Untreated Water Option would occur within existing EBMUD property away from public road rights-of-way, and as such, would not directly affect nearby traffic patterns. This impact would be *less than significant*.

Future Expansion Option

Construction of the treatment facilities associated with the Future Expansion Option would occur within EBMUD property at existing water treatment plants or along aqueducts away from public road rights-of-way and as such, would not directly affect nearby traffic patterns. However, material and supply deliveries and other traffic to and from the construction sites could impact public roads. Impacts associated with traffic delays and lane closures or road closures (although temporary) would be *potentially*

significant. Implementation of Mitigation Measure 5.2.E-1 would reduce this impact to a less-than-significant level.

Please also see the Untreated Water Option for a discussion of the potential traffic impacts associated with the check valve replacement/retrofit and interconnection with the Mokelumne Aqueduct that would also be required as part of the Future Expansion Option.

Mitigation Measure 5.2.E-1: Prepare and implement a traffic control plan.

This mitigation measure is set forth on pages 5.2.E-3 through 5.2.E-4 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

Impact 5.2.E-2: Potential short-term increases in vehicle trips during construction.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Construction-generated traffic would be temporary and, therefore, would not result in any long-term degradation of operating conditions or level of service on any project roadways. The number of construction-related truck trips associated with the delivery of equipment, import-export of material, and worker commutes to and from the construction sites has not yet been determined. For the purposes of this program-level analysis, impacts associated with short-term increases in construction-related vehicle trips would be ***potentially significant***, absent information on the amount of construction traffic that would be generated during peak traffic hours. Implementation of Mitigation Measure 5.2.E-2 would reduce this potential impact to a less-than-significant level.

Operation of the Current and Future Expansion Options is expected to result in minor increases in workers, as existing EBMUD employees would likely maintain proposed facilities as part of existing workloads. Therefore, potential traffic impacts would be ***less than significant***.

Mitigation Measure 5.2.E-2: Schedule construction truck trips to avoid peak traffic hours.

This mitigation measure is set forth on page 5.2.E-6 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

Impact 5.2.E-3: Potential to generate demand for parking spaces for worker vehicles.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Construction activities would occur at the treatment facility locations (existing water treatment plants or along aqueducts), at the Walnut Creek East Portal site, and along pipeline alignments. There would likely be sufficient space at the potential treatment facility locations and Walnut Creek East Portal site to accommodate staging and worker vehicle parking. Pipeline installation along roadways as part of the Treated Water Options could displace available parking spaces in the construction zone. Although the number of displaced parking spaces to accommodate worker vehicles cannot be determined at this time, within residential areas, construction activities would occur during the day when residents are most likely at work, and therefore sufficient parking to accommodate the public and worker vehicles would likely be available on nearby streets. This would be a *less-than-significant* impact.

Operation of the Current and Future Expansion Options is expected to result in a minor increase in workers, with adequate parking available to accommodate any new staff. As such, operational impacts related to parking would be *less than significant*.

Impact Significance: *Less than Significant*

Impact 5.2.E-4: Potential increase in wear and tear on designated haul routes from construction vehicles.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

The use of heavy trucks to transport equipment and material to and from work sites could affect road conditions on designated haul routes by increasing the rate of road wear. Major arterials and collectors are designed to accommodate a mix of vehicle types, including heavy trucks; potential impacts are expected to be negligible on such roads. Residential roads and some local roadways whose pavement thickness may not withstand the increase in the number of truck trips that would occur during construction are generally not intended to withstand substantial truck traffic volumes. Although these roads would be avoided to the extent feasible, impacts related to damaged roadways would be considered *potentially significant*. Implementation of Mitigation Measure 5.2.E-4 below would reduce these potential impacts to less-than-significant levels.

Mitigation Measure 5.2.E-4: Conduct pre-construction survey of road conditions.

This mitigation measure is set forth on page 5.2.E-8 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

Impact 5.2.E-5: Potential to temporarily disrupt bus service along proposed pipeline corridors during construction.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option; and
- Untreated Water Option.

Bus routes occur throughout the EBMUD service area. Pipeline alignments associated with the Treated Water - New Intertie Option would occur along the County Connection Bus Route 7 which operates on Geary Road and Buena Vista Avenue. In addition, access to the Untreated Water Option as well as the Treated Water - Boyd Road Intertie Option may also cross the County Connection 7 Bus route. Construction activities, especially installation of pipelines, have the potential to temporarily affect transit operations by limiting access to bus stations, thereby requiring relocation of bus stops. If entire roadways are closed, then bus route detours may be necessary. The relocation of bus stations or detour of routes would last as long as construction activities, but disruption of bus routes would be a *potentially significant* impact. Implementation of Mitigation Measure 5.2.E-5 would reduce this impact to a less-than-significant level.

Mitigation Measure 5.2.E-5: Relocate bus stops or detour bus routes.

This mitigation measure is set forth on page 5.2.E-9 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

f. Air Quality

Impact Discussion

Impact 5.2.F-1: Potential to conflict with, or obstruct implementation of, applicable air quality plans.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Facilities developed as part of the options for participation in the Los Vaqueros Reservoir expansion would not generate substantial long-term operational emissions that would add to the region's emissions profile for the lifetime of the project. Rather, a minimal increase in VMT would occur from employees and maintenance workers traveling to and from the project site. It is not anticipated that the level of daily trips associated with the proposed project would exceed any threshold of significance. Therefore, this impact would be considered ***less than significant***.

Impact Significance: *Less than Significant*

Impact 5.2.F-2: Potential to violate an air quality standard or contribute substantially to an existing or projected air quality violation.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

As described in the 2009 PEIR, facilities developed as part of these options would generate criteria air pollutant and ozone precursor emissions associated with construction activities. In addition, following construction, long-term operational emissions would result from the operation and maintenance of the facilities. The proposed facilities would include construction and operational activities similar to those

described in the 2009 PEIR Air Quality section (Impact 5.2.F-2). Although operational emissions are not anticipated to be substantial, it is reasonable to assume that construction emissions could contribute substantially to an existing or projected air quality violation, similar to the construction activities described in the 2009 PEIR. Therefore, even with the implementation of Mitigation Measure 5.2.F-2, this impact is considered *potentially significant*.

Mitigation Measure 5.2.F-2: Comply with all requirements of Mitigation Measures 5.2.F-2a, 5.2.F-2b, 5.2.F-2c of the 2009 PEIR.

Mitigation Measures 5.2.F-2a, 5.2.F-2b, and 5.2.F-2c are set forth on pages 5.2.F-9 through 5.2.F-11 of the 2009 PEIR. Mitigation Measure 5.2.F-2a requires implementation of control measures to reduce fugitive dust emissions, Mitigation Measure 5.2.F-2b requires implementation of measures to reduce exhaust emissions of ozone precursors from heavy-duty off-road construction equipment and on-road sources, and Mitigation Measure 5.2.F-2c requires implementation of measures to reduce emissions of CAPs and ozone precursors if such emissions would otherwise exceed the significance thresholds.

Impact Significance After Mitigation: *Potentially Significant*

Impact 5.2.F-3: Potential for a cumulatively considerable net increase of criteria pollutants for which the region is in nonattainment under an applicable national or State ambient air quality standard.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Construction activities associated with the proposed facilities have the potential to exceed applicable significance thresholds developed or adopted by the local air district. If these significance thresholds are exceeded, the project is considered to contribute more than the allocated amount of emissions per project. These thresholds and emission limits are used to demonstrate maintenance and achievement of ambient air quality standards. Therefore, if a project exceeds these thresholds, it would be considered to hamper attainment or maintenance of an ambient air quality standard and would have a cumulatively considerable net increase of criteria air pollutants or ozone

precursors. Even with the implementation of Mitigation Measure 5.2.F-3, at this program-level stage of analysis, this impact is considered *potentially significant*.

Mitigation Measure 5.2.F-3: Implement Mitigation Measures 5.2.F-2a, 5.2.F-2b, and 5.2.F-2c.

Mitigation Measures 5.2.F-2a, 5.2.F-2b, and 5.2.F-2c are set forth on pages 5.2.F-9 and 5.2.F-10 of the 2009 PEIR.

Impact Significance After Mitigation: *Potentially Significant*

Impact 5.2.F-4: Potential exposure of sensitive receptors to substantial pollutant concentrations.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Construction of the proposed facilities would generate emissions of diesel particulate matter (PM), which is classified as a carcinogen by the California Air Resources Board. Due to the uncertainty of construction activities and facility locations, it cannot be specifically determined what the mass emissions or emissions concentrations of diesel PM would be during construction activities. Furthermore, the location of sensitive receptors is not known at this time. Therefore, even with the implementation of Mitigation Measure 5.2.F-4, this impact is considered *potentially significant* at the program level of review, and further evaluation would be necessary at a project-specific level of environmental review.

Mitigation Measure 5.2.F-4: Implement Mitigation Measure 5.2.F-2 above, and Mitigation Measure 5.2.F-4b and 5.2.F-4c from the 2009 PEIR.

Mitigation Measures 5.2.F-2a, 5.2.F-2b, and 5.2.F-2c are set forth on pages 5.2.F-9 through 5.2.F-11 of the 2009 PEIR, and Mitigation Measure 5.2.F-4b and 5.2.F-4c are set forth on pages 5.2.F-16 through 5.2.F-17 of the 2009 PEIR.

Impact Significance After Mitigation: *Potentially Significant*

Impact 5.2.F-5: Potential exposure of sensitive receptors to substantial CO concentrations.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Construction of the proposed facilities for the Current and Future Expansion Options would add additional truck and passenger vehicle traffic to regional roadways. However, it is not anticipated that construction activities would generate a significant amount of traffic that would cause a carbon monoxide (CO) hotspot at a regional intersection. In addition, operational activities would require minimal maintenance and operation workers, which are also not anticipated to contribute substantial traffic volumes to regional roadways. This impact is considered ***less than significant***.

Impact Significance: *Less than Significant*

Impact 5.2.F-6: Potential creation of objectionable odors affecting a substantial number of people.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Facilities developed as part of these options are not considered large odor sources. Furthermore, the construction activities associated with the proposed facilities would occur intermittently and temporarily. Therefore, construction activities would not generate a constant plume of odors (e.g., diesel PM) that would affect nearby receptors. Lastly, as discussed in the 2009 PEIR, construction activities would comply with all local air district requirements to reduce nuisances (i.e., odors) and reactive organic gases (ROG) emissions associated with construction materials (e.g., architectural coatings, asphalt paving). This impact is considered ***less than significant***.

Impact Significance: *Less than Significant**Greenhouse Gases****Impact 5.2.F-7: Potential to generate short-term and temporary GHG emissions during construction of the proposed project.***

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Construction activities associated with participation in the Los Vaqueros expansion would generate temporary greenhouse gas (GHG) emissions. These emissions, though short-term in nature, could be relatively large depending on requirements of off-road construction equipment, material delivery trucks, and construction worker vehicles. Because this is a program-level analysis, the precise construction activities (e.g., schedule, types of equipment, hours of operation per day) and subsequent GHG emissions cannot be determined at this time. However, as discussed in the 2009 PEIR, California Air Resources Board initiatives associated with the AB 32 Scoping Plan and Mitigation Measures 5.2.F-2b and 5.2.F-2c would reduce future construction-related GHG emissions. Although implementation of these initiatives and mitigation measures, turnover in construction fleets and on-road vehicles, and cleaner emissions technology (e.g., fuel efficiency, electric cars) would reduce future GHG emissions, the extent to which they would affect the project's GHG construction emissions cannot be determined at this time. Furthermore, as described above, the magnitude of the proposed activities cannot be accurately determined as well. Therefore, it is possible that the sheer magnitude of construction activities could outweigh and overshadow future reductions. Therefore, this impact is considered ***potentially significant***, even with implementation of Mitigation Measure 5.2.F-2.

Mitigation Measure 5.2.F-2: Implement Mitigation Measures 5.2.F-2b and 5.2.F-2c from Section 5.2.F Air Quality of the 2009 PEIR.

Mitigation Measures 5.2.F-2b and 5.2.F-2c are set forth on pages 5.2.F-10 through 5.2.F-11 of the 2009 PEIR.

Impact Significance After Mitigation: *Potentially Significant*

Impact 5.2.F-8: Potential to generate long-term GHG emissions due to operational activities associated with the proposed project.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Long-term operational activities associated with the Current and Future Expansion Options would not generate substantial GHG emissions. The proposed facilities would require minimal vehicle trips for daily operations and maintenance. Although electricity would be used to power the proposed facilities, and that diesel fuel could be used for emergency generators, the facilities would be designed and built using the newest energy efficient technologies. Therefore, the project is consistent with the goals of AB 32 to continue providing services to the public at a more GHG-efficient rate. It also should be noted that several state initiatives (e.g., Renewable Portfolio Standard) discussed in Section 8, Cumulative Impacts, of the 2009 PEIR would reduce the GHG emissions associated with electricity production and consumption in the future. Therefore, this impact is considered **less than significant**.

Impact Significance: *Less than Significant*

g. Noise

Impact Discussion

5.2.G-1: Potential exposure of sensitive receptors to noise levels in excess of the applicable noise standards and/or result in a noticeable increase in ambient noise levels from short-term construction activities.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option; and
- Untreated Water Option.

The analysis presented in the 2009 PEIR beginning on page 5.2.G-2 is applicable to the facilities proposed under the Current Expansion Options. As described in the 2009 PEIR, effects of construction noise largely depend on the type of construction activities occurring on any given day, noise levels generated by those activities, distances to

noise-sensitive receptors, and the existing ambient noise environment in the receptor's vicinity. Such effects would be short-term and last only for the duration of construction activities. Noise levels attributable to short-term construction would fluctuate depending on the particular type, number, and duration of use for various types of equipment. The noise-sensitive uses described in the settings are in close proximity to proposed construction areas; therefore, the potential exists for the construction of the proposed options to expose sensitive receptors to noise levels in excess of the applicable daytime and nighttime noise standards and/or result in a noticeable increase in ambient noise levels.

Construction requirements for the facilities proposed under the Current Expansion Options have not yet been developed. Further site-specific analysis would be needed to determine the potential effects of noise at the noise-sensitive land uses in close proximity to proposed construction areas. As a result, construction noise impacts in this program-level analysis are considered ***potentially significant***. While implementation of Mitigation Measures 5.2.G-1a and 5.2.G-1b would reduce potential impacts, it is not known whether these measures would reduce potential impacts to less-than-significant levels.

Mitigation Measure 5.2.G-1a: Avoid siting proposed construction activities in close proximity to noise-sensitive land uses.

Mitigation Measure 5.2.G-1b: Implement measures to reduce short-term construction noise levels.

These mitigation measures are set forth on pages 5.2.G-4 and 5.2.G-5 of the 2009 PEIR.

Impact Significance After Mitigation: *Potentially Significant*

Future Expansion Option

As with the Current Expansion Options, the analysis presented in the 2009 PEIR beginning on page 5.2.G-2 is applicable to the facilities proposed under the Future Expansion Option. The noise-sensitive uses described in the setting discussion above are in close proximity to the construction areas for the proposed check valves and aqueduct interconnections; therefore, the potential exists for the construction of the proposed facilities to expose sensitive receptors to noise levels in excess of the applicable daytime and nighttime noise standards and/or result in a noticeable increase in ambient noise levels. As a result, noise impacts related to construction of the check valves and aqueduct interconnections would be ***potentially significant***. While implementation of Mitigation Measures 5.2.G-1a and 5.2.G-1b would reduce potential impacts, it is not known whether these measures would reduce potential impacts to less-than-significant levels. Further site-specific analysis would be needed to determine the potential effects of noise at the noise-sensitive land uses in close proximity to proposed construction areas.

Mitigation Measure 5.2.G-1a: Avoid siting proposed construction activities in close proximity to noise-sensitive land uses.

Mitigation Measure 5.2.G-1b: Implement measures to reduce short-term construction noise levels.

These measures are set forth on pages 5.2.G-4 and 5.2.G-5 of the 2009 PEIR.

Mitigation Measure 5.2.G-1c: Provide Public Notice of Proposed Activities and Provide Noise Shielding to the Extent Feasible.

This mitigation measure was presented in the Freeport Regional Water Project Draft EIR/EIS and applies to the possible treatment plant on aqueduct facilities near Camanche Reservoir.¹⁵ Similar measures could be used for new treatment facilities located at existing water treatment plants.

Prior to construction, adequate notice should be provided to all potentially affected residences. The construction contractor will designate a noise disturbance coordinator who will be responsible for responding to complaints regarding construction noise. The coordinator will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the noise disturbance coordinator will be conspicuously posted on construction site fences and will be included in the written notification of the construction schedule sent to nearby residents. Such notices should be provided to all residences within 4,000 feet of construction areas at least 2 weeks before construction activities begin. In addition, noise shielding should be provided to the extent feasible and practicable. Such shielding may include, but is not limited to, features such as movable noise barriers, noise-reducing “blankets,” hay bale shield walls, and similar features. Full consideration should be given to noise-reducing construction methods. A noise specialist shall be consulted to assist in identifying feasible methods of noise reduction.

Impact Significance After Mitigation: *Potentially Significant*

5.2.G-2: Potential exposure of noise-sensitive receptors to noise levels in excess of the applicable noise standards and/or result in a noticeable increase in ambient noise levels from long-term operational activities.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option; and
- Treated Water - New Intertie Option.

¹⁵ Ibid.

The analysis presented in the 2009 PEIR beginning on page 5.2.G-6 is applicable to the facilities proposed for the Treated Water Options. Some of the proposed facilities (e.g., pumping plant) could generate operational-related noise. Buried pipelines would not likely result in any long-term operational noise impacts. Noise levels from proposed operational equipment may vary significantly depending on unit efficiency, size, and location. The noise-sensitive uses described in the setting discussion above are in close proximity to these facilities; therefore, the potential exists for their operation to expose sensitive receptors to noise levels in excess of the applicable daytime and nighttime noise standards and/or result in a noticeable increase in ambient noise levels. As a result, operational stationary noise would be *potentially significant*. While implementation of Mitigation Measures 5.2.G-2a and 5.2.G-2b would reduce potential impacts, it is not known whether these measures would reduce potential impacts to less-than-significant levels. Further site-specific analysis would be needed to determine the potential effects of noise at the noise-sensitive land uses in close proximity to the proposed portable pump and pumping plant.

Mitigation Measure 5.2.G-2a: Avoid siting proposed facilities in close proximity to noise sensitive land uses.

Mitigation Measure 5.2.G-2b: Implement measures to reduce long-term operational related noise levels.

These mitigation measures are set forth on page 5.2.G-7 of the 2009 PEIR.

Impact Significance After Mitigation: *Potentially Significant*

Untreated Water Option

The check valves and aqueducts interconnection would be located underground and would not create operational noise. As such, no impact would occur.

Impact Significance: *No Impact*

Future Expansion Option

Construction of the proposed treatment facilities would occur within EBMUD property at existing water treatment plants or along aqueducts. These facilities could generate operational noise. Because the specific location of these facilities is not known at this time, the potential impacts on nearby noise-sensitive land uses cannot be determined. Therefore, this impact is *potentially significant*. While implementation of Mitigation Measures 5.2.G-2a and 5.2.G-2b would reduce potential impacts, it is not known whether these measures would reduce potential impacts to less-than-significant levels. Further site-specific analysis would be needed to determine the potential effects of noise at the noise-sensitive land uses in close proximity to the proposed treatment facilities.

Please also see the Untreated Water Option for a discussion of the potential noise impacts associated with the check valve replacement/retrofit and interconnection with the Mokelumne Aqueduct that would also be required as part of the Future Expansion Option.

Mitigation Measure 5.2.G-2a: Avoid siting proposed facilities in close proximity to noise sensitive land uses.

Mitigation Measure 5.2.G-2b: Implement measures to reduce long-term operational related noise levels.

These mitigation measures are set forth on page 5.2.G-7 of the 2009 PEIR.

Impact Significance After Mitigation: *Potentially Significant*

Impact 5.2.G-3: Potential for noticeable increase in traffic noise (3 dB or greater) along roadways designated for hauling construction materials.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

The analysis presented in the 2009 PEIR beginning on page 5.2.G-8 is applicable to the facilities proposed under the Current and Future Expansion Options. Construction materials would be transported over designated haul routes on the local roadway network, thus increasing traffic volumes along affected roadway segments. Local roadway networks in urban areas would be expected to consist of high existing traffic volumes, resulting in high existing traffic noise levels. Rural areas generally have lower existing traffic volumes, resulting in lower existing traffic noise levels. Construction-related traffic increases would be expected to increase existing traffic noise levels; however, increases would be site specific and require specific traffic analysis when details are available. As a result, construction-related traffic noise impacts would be considered ***potentially significant***, although further site-specific analysis would be needed to determine the potential effects of increased traffic noise at the noise-sensitive land uses. Implementation of Mitigation Measures 5.2.G-3a and 5.2.G-3b would reduce impacts to a level that is less than significant.

Mitigation Measure 5.2.G-3a: Avoid designating construction haul routes on local roadways with adjacent noise-sensitive land uses.

Mitigation Measure 5.2.G-3b: Implement measures to reduce construction-generated traffic noise levels at existing noise-sensitive receptors.

These mitigation measures are set forth on pages 5.2.G-8 and 5.2.G-9 of the 2009 PEIR.

Impact Significance After Mitigation: *Less Than Significant*

Impact 5.2.G-4: Potential exposure of sensitive receptors to excessive ground-borne noise and vibration levels (e.g., exceed FTA, Caltrans, and local guidelines).

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

The analysis presented in the 2009 PEIR beginning on page 5.2.G-9 is applicable to the facilities proposed under the Current and Future Expansion Options. Construction activities would have the potential to result in varying degrees of temporary ground-borne vibration, depending on the specific construction equipment used and operations involved. Sensitive receptors located in close proximity to construction activities could be exposed to ground-borne vibration levels exceeding the recommended FTA and Caltrans guidelines, resulting in annoyance or architectural/structural damage. As a result, construction-induced vibration impacts would be ***potentially significant***. While implementation of Mitigation Measures 5.2.G-4a and 5.2.G-4b would reduce potential impacts, it is not known whether these measures would reduce potential impacts to less-than-significant levels. Further site-specific analysis would be needed to determine the potential effects of increased ground-borne vibration levels at the vibration-sensitive land uses.

Mitigation Measure 5.2.G-4a: Avoid siting proposed construction activities in close proximity to vibration-sensitive land uses.

Mitigation Measure 5.2.G-4b: Implement measures to reduce construction-generated vibration levels from construction activities at existing vibration-sensitive receptors.

These Mitigation Measures are set forth on pages 5.2.G-10 through 5.2.G-11 of the 2009 PEIR.

Impact Significance After Mitigation: *Potentially Significant*

h. Cultural Resources

Impact Discussion

Impact 5.2.H-1: Potential to alter or damage known or unrecorded cultural resources, including human remains, during construction.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

The analysis presented in the 2009 PEIR beginning on page 5.2.H-3 is applicable to the facilities proposed under the Current and Future Expansion Options. Construction of new facilities (including pumping plants, pipelines, and check valves and aqueducts interconnection) would require excavation and grading that could create indirect or direct physical impacts to prehistoric or historic cultural resources. Most of the locations of the proposed facilities have not been surveyed for the presence of cultural resources, and buried or previously unidentified cultural resources are likely to be discovered during construction. The placement of proposed facilities in areas already urbanized and considered disturbed could minimize potential impacts to cultural resources, but would not necessarily avoid them. This impact would be a ***potentially significant***. Implementation of Mitigation Measures 5.2.H-1a through 5.2.H-1d would reduce impacts to a level that is less than significant.

Mitigation Measure 5.2.H-1a: Perform a record search at the appropriate information center and cultural and architectural resource surveys, and document results.

Mitigation Measure 5.2.H-1b: Develop a plan to manage the discovery of as-yet unknown cultural resources.

Mitigation Measure 5.2.H-1c: Avoid disturbance to human remains.

Mitigation Measure 5.2.H-1d: Prepare a Data Recovery Plan.

These mitigation measures are set forth on pages 5.2.H-4 through 5.2.H-7 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

i. Visual Resources

Impact Discussion

Impact 5.2.I-1: Potential to adversely affect the existing visual character and scenic vistas or resources.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

The precise locations, designs and layouts of all of the proposed facilities have not yet been determined. Proposed facilities include above-ground structures (e.g., treatment facilities), as well as pipelines that would be buried underground.

Treated Water Options

Because pipeline construction would occur for a relatively short period of time in any given area, potential impacts on visual character or scenic views and resources would be limited in duration. Pipelines and associated instrumentation/facilities would be buried underground and would therefore have no long-term impact on visual character or scenic views. This impact would be ***less than significant***.

Untreated Water Option

Because construction would occur for a relatively short period of time, potential impacts on visual character or scenic views and resources would be limited in duration. Replacement/retrofitted check valves and the construction of an interconnection between Mokelumne Aqueducts with isolation valves would have minor impacts on visual character or scenic views, as they would be located at an existing EBMUD facility at the Walnut Creek East Portal. This site is also surrounded by tall trees. It is not yet known where additional treatment facilities would be constructed, but these facilities would occur at existing EBMUD water treatment facilities or aqueduct locations. The industrial appearance of new facilities would potentially contrast with adjacent uses and impact the existing aesthetic character of the project sites and environs. The extent of potential effects on views and visual character from the treatment facilities and temporary construction activities cannot be determined without specific information concerning the facility's design. Project-level planning and environmental documentation would be required to determine the extent of impacts on views and the visual character of affected areas. Therefore, for the purposes of this program-level analysis, impacts on views and visual character would be *potentially significant*. Implementation of Mitigation Measure 5.2.I-1 would reduce this impact to a level that is less than significant.

Future Expansion Option

It is not yet known where additional treatment facilities would be constructed, but these facilities would occur at existing EBMUD water treatment facilities or aqueduct locations. The industrial appearance of new facilities would potentially contrast with adjacent uses and impact the existing aesthetic character of the project sites and environs. The extent of potential effects on views and visual character from the treatment facilities and temporary construction activities cannot be determined without specific information concerning the facility's design. Project-level planning and environmental documentation would be required to determine the extent of impacts on views and the existing visual character of affected areas. Therefore, for the purposes of this program-level analysis, impacts on views and visual character would be *potentially significant*. Implementation of Mitigation Measure 5.2.I-1 would reduce this impact to a level that is less than significant.

Mitigation Measure 5.2.I-1: Integrate above-ground structures with the surrounding structures and landscape.

This mitigation measure is set forth on page 5.2.I-6 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

Impact 5.2.I-2: Potential to increase light and glare.

The general discussion presented below addresses the following option:

- Future Expansion Option.

It is not yet known where additional treatment facilities would be constructed, but these facilities would occur at existing EBMUD water treatment facilities or aqueduct locations. Project-level planning and environmental documentation would be required to determine the extent of light and glare impacts. The proposed facilities may include exterior lighting, which may be visible from, or dispersed to create glare on, surrounding uses. The introduction of a new light source, particularly in an area not already illuminated, or an increase in ambient light or glare would be a ***potentially significant*** impact. Implementation of Mitigation Measure 5.2.I-2 would reduce this potential impact to a less-than-significant level. Additional project-level visual analysis would be conducted once specific sites are selected and individual designs are completed, to determine light and glare effects.

Mitigation Measure 5.2.I-2: Incorporate design elements to reduce light and glare.

This Mitigation Measure is set forth on page 5.2.1-7 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

j. Hazards

Issues Dismissed from Further Analysis

The proposed facilities under the Current and Future Expansion Options would not be located within an airport land use plan or within the vicinity of a public or private airport. As such, no impacts related to these issues would occur.

Impact Discussion

Impact 5.2.J-1: Potential exposure to uncontrolled releases of hazardous materials.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Construction

The analysis presented in the 2009 PEIR beginning on page 5.2.J-2 is applicable to the facilities proposed under the Current and Future Expansion Options. Uncontrolled release of substances such as fuels, oils, and lubricants, paints and chemicals used or stored during construction of proposed facilities have the potential to expose workers and the public to contamination. The potential for exposure of workers and the public to hazardous materials from accidental spills would be ***potentially significant***. Implementation of Mitigation Measure 5.2.J-1 would reduce this impact to a level that is less than significant.

Operation

The analysis presented in the 2009 PEIR beginning on page 5.2.J-2 is applicable to the facilities proposed under the Current and Future Expansion Options. As described in the 2009 PEIR, operation of the proposed facilities would involve the storage, use, and transport of hazardous materials. The potential risk of exposure of workers and the public to uncontrolled releases of hazardous substances during project operation would be ***potentially significant***. Implementation of Mitigation Measure 5.2.J-1 would reduce this impact to a level that is less than significant.

Mitigation Measure 5.2.J-1: Enforce on-site hazardous materials handling rules.

This mitigation measure is set forth on pages 5.2.J-3 through 5.2.J-4 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

Impact 5.2.J-2: Potential exposure of construction workers to contaminated soil and water.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

The analysis presented in the 2009 PEIR beginning on page 5.2.J-4 is applicable to the facilities proposed under the Current and Future Expansion Options. Known or undocumented soil contamination could be encountered during earthmoving activities. This impact would be ***potentially significant***. Implementation of Mitigation Measure 5.2.J-2 would reduce this impact to a level that is less than significant.

Mitigation Measure 5.2.J-2: Conduct environmental site assessments and remediation.

This Mitigation Measure is set forth on page 5.2.J-5 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

Impact 5.2.J-3: Potential exposure to risk of wildland fires.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

The analysis presented in the 2009 PEIR beginning on page 5.2.J-6 is applicable to the facilities proposed under the Current and Future Expansion Options. The proposed facilities would potentially be located within or near wildland areas with high potential for fire during dry seasons. The potential for igniting wildfires during construction-related activities would be ***potentially significant***, particularly during the fire season. Implementation of Mitigation Measures 5.2.J-3a and 5.2.J-3b would reduce this impact to a level that is less than significant.

Mitigation Measure 5.2.B-3a: Implement fire control plans.

Mitigation Measure 5.2.B-3b: Implement EBMUD's Fire Management Plan.

These Mitigation Measures are set forth on pages 5.2.J-6 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

k. Public Services and Utilities

Issues Dismissed from Further Analysis

The Current and Future Expansion Options would involve the construction of a variety of facilities (e.g., treatment facilities, pump stations, interties, and buried pipelines); however, they would not increase the population or induce the need for additional public services such as wastewater treatment (see Chapter 7, Growth Inducement, of the 2009 PEIR). The proposed facilities would therefore not exceed wastewater treatment

requirements of the applicable Regional Water Quality Control Board and would not result in additional wastewater treatment capacity requirements on the wastewater treatment provider.

In addition, the Current and Future Expansion Options would not require or result in the construction of new wastewater treatment facilities. As such, no environmental impacts related to the construction of these facilities would occur. Similarly, these options would not result in the construction of new storm water drainage facilities or expansion of existing facilities, and therefore would not result in environmental impacts related to the construction of such facilities.

No further discussion of these issues is provided.

Impact Discussion

Impact 5.2.K-1: Potential temporary damage to or disruption of existing regional and local public utilities and impacts related to the relocation of utilities.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

The Current and Future Expansion Options have the potential to traverse or encroach on existing utility corridors. Construction activities associated with the proposed facilities may affect utility infrastructure by requiring the relocation of existing facilities. This would be a ***potentially significant*** impact. Implementation of Mitigation Measures 5.2.K-1a through 5.2.K-1e below would reduce potential impacts to less-than-significant levels. The extent of utility relocation cannot be determined at this time, but would be identified during the pre-design and permitting stages for each option.

Mitigation Measure 5.2.K-1a: Notify neighbors of potential utility service disruption.

Mitigation Measure 5.2.K-1b: Locate utility lines and confirm utility line information prior to excavation and reconnect utilities promptly.

Mitigation Measure 5.2.K-1c: Safeguard employees from potential accidents related to underground utilities.

Mitigation Measure 5.2.K-1d: Prepare and implement an emergency response plan.

Mitigation Measure 5.2.K-1e: Coordinate final construction plans with affected utilities.

These Mitigation Measures are set forth on pages 5.2.K-5 and 5.2.K-6 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

Impact 5.2.K-2: Potential to increase short-term demand for police and fire protection services.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Construction of the facilities proposed under the Current and Future Expansion Options has the potential to generate a short-term increase in demand for police and fire services if an accident were to occur as a result of the project. There would be no long-term increases in demand for police or fire services associated with these options. Therefore, impacts would be ***less than significant***.

Impact Significance: *Less than Significant*

Impact 5.2.K-3: Potential temporary adverse effect on solid waste landfill capacity.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Construction of the facilities proposed under the Current and Future Expansion Options could result in the generation of a large volume of waste materials. The Future Expansion Option would have the largest potential for generation of waste materials during the construction of the proposed treatment facilities, while the Untreated Water

Option would likely generate the least waste material since it requires less intensive construction. If all construction waste materials were disposed of in local landfills, these materials could potentially exceed the daily tonnage limit of these landfills and/or adversely affect landfill capacity. Since the exact quantity and quality of disposed material and the daily disposal rates have not yet been determined for each option, the impact on permitted landfill capacity is considered *potentially significant*. Implementation of Mitigation Measure 5.2.K-3 would reduce this potential impact to a less-than-significant level.

Mitigation Measure 5.2.K-3: Waste Reduction Measures.

This mitigation measure is set forth on page 5.2.K-9 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

Impact 5.2.K-4: Potential for construction-related energy use and potential to increase long-term energy use during operation.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option;
- Treated Water - New Intertie Option;
- Untreated Water Option; and
- Future Expansion Option.

Construction energy expenditures would include both direct and indirect use of energy. Though construction energy would be consumed only during the construction period, it would represent irreversible consumption of finite natural energy resources. Energy consumed during construction would primarily be in the form of fuel (primarily gas, diesel, and motor oil) and would not have a significant effect on PG&E's energy resources.

Excessive idling and other inefficient site operations could result in the wasteful use of fuels. Therefore, impacts related to the wasteful use of fuels during construction would be *potentially significant*. Implementation of exhaust control measures specified in the 2009 PEIR Section 5.2.F, Air Quality (Mitigation Measures 5.2.F-2b and 5.2.F-2c), would ensure that fuels are not used in a wasteful manner and would reduce this impact to a less-than-significant level.

Based on available information, energy requirements by component in units of kilowatts hours of energy per million gallons of water produced (kWh/MG) are provided in Table 7-3. These options would be primarily operated during dry years; however, it is

possible that water would be delivered during non drought situations. For a comparison of energy use with the components described in the 2009 PEIR, please refer to Table 5.2.K-1 (page 5.2.K-12 of the 2009 PEIR). As a point of reference, PG&E's generation capacity is 8,255 megawatts (MW (PG&E 2002) and the State's capacity is 63,213 MW (EIA 2006).

Table 7-3: Energy Use by Option

OPTION	COMPONENT YIELD (MGD)	TOTAL DRY YEAR ENERGY USE ^{1,2} (KWH/MG)	ENERGY USE ¹ (KWH/DAY)	EQUIVALENT NUMBER OF HOUSEHOLDS OF ENERGY USE ³	ANNUAL ENERGY DEMAND ¹ (MWH/YR)
Treated Water - Boyd Road Intertie Option	8	3,000-6,000	24,000-48,000	1,348-2,695	8,760-17,520
Treated Water - New Intertie Option	8-12	3,000-6,000	24,000-72,000	1,348-4,043	8,760-26,280
Untreated Water Option	Up to 45	3,000-6,000	135,000-270,000	7,581-15,162	49,275-98,550
Future Expansion Option	45-100	3,000-6,000	135,000-600,000	7,581-33,692	49,275-219,000

Notes:

¹ Maximum load is assumed.

² Total dry year energy use is provided for the Enlarge Los Vaqueros options as a range, as the energy use for these options has not been modeled and cannot be more accurately estimated at this time as part of this program level analysis.

³ A typical California household consumes 6,500 kWh of energy annually (CEC 2003).

Source: EBMUD 2011.

As described in the 2009 PEIR on page 5.2.K-11, the estimated energy requirements for the above options includes energy required for water treatment to bring the water to the standard necessary for its intended use, energy required for pumping, as well as energy required to convey the water to treatment plants and subsequently to its intended users. The amount of energy required would depend on the equipment used, the degree of treatment required, and the proximity of the treatment plant to the location of the source water.

Because the actual energy use of the options is not known, and the new facilities would come online over the course of the 30-year planning period, impacts on energy use would be *potentially significant*. However, incorporation of energy efficiency measures (Mitigation Measure 5.2.K-4 in the 2009 PEIR) would reduce this impact to a less-than-significant level. Impacts on energy use would be evaluated as part of project-level CEQA documentation.

Treated Water - Boyd Road Intertie Option

The energy required for the Treated Water - Boyd Road Intertie Option would be related to pumping water from the CCWD water treatment plant to the EBMUD service area in dry years, or at other times if needed, and for conveyance of water to its intended users. The amount of energy required for pumping depends on quantity of water being conveyed.

Based on available information, the Treated Water - Boyd Road Intertie Option would require between 3,000 and 6,000 kWh/MG in dry years. The expected yield of this component is approximately 8 MGD, so a total of between 24,000 and 48,000 kWh per day (8,760-17,520 MWh annually) of energy would be required for operation. The Treated Water - Boyd Road Intertie Option is only anticipated to be operational during dry years. Based on the assumption that a typical California household consumes 6,500 kWh annually (CEC 2003), this component would consume roughly the same amount of electricity as between 1,348 and 2,695 households per year.

In 2002, PG&E delivered over 76 million MWh of power to its electric customers (PG&E 2002); the Treated Water - Boyd Road Intertie Option would be estimated to require between 0.01% and 0.02% of PG&E's electric deliveries.

The actual energy use of new facilities proposed under this option will be confirmed at the project design stage and will depend on facility design and the use of emerging technologies that may increase energy efficiency. Because the actual energy use of the Treated Water - Boyd Road Intertie Option is not known, and the new facilities would come online at a yet to be determined time during the 30-year planning period, impacts on energy use would be *potentially significant*. However, incorporation of energy efficiency measures (Mitigation Measure 5.2.K-4 in the 2009 PEIR) would reduce this impact to a less-than-significant level. Impacts on energy use would be evaluated as part of project-level CEQA documentation.

Treated Water - New Intertie Option

Energy required for the Treated Water - New Intertie Option would be related to pumping water from the CCWD water treatment plant to the EBMUD service area in dry years, or at other times if needed, and for conveyance of water to its intended users. The amount of energy required for pumping depends on quantity of water being conveyed.

Based on available information, the Treated Water - New Intertie Option would require between 3,000 and 6,000 kWh/MG in dry years. The expected yield of this component is between approximately 8 and 12 MGD, so a total of between 24,000-72,000 kWh per day (8,760-26,280 MWh annually) of energy would be required for operation. The Treated Water - New Intertie Option is primarily anticipated to be operational during dry years. Based on the assumption that a typical California household consumes

6,500 kWh annually (CEC 2003), this component would consume roughly the same amount of electricity as between 1,348 and 4,043 households per year.

In 2002, PG&E delivered over 76 million MWh of power to its electric customers (PG&E 2002); the Treated Water - New Intertie Option would be estimated to require between 0.01% and 0.03% of PG&E's electric deliveries.

The actual energy use of new facilities proposed under this component will be confirmed at the project design stage and will depend on facility design and the use of emerging technologies that may increase energy efficiency. Because the actual energy use of the Treated Water - New Intertie Option is not known, and the new facilities would come online at a yet to be determined time during the 30-year planning period, impacts on energy use would be *potentially significant*. However, incorporation of energy efficiency measures (Mitigation Measure 5.2.K-4 in the 2009 PEIR) would reduce this impact to a less-than-significant level. Impacts on energy use would be evaluated as part of project-level CEQA documentation.

Untreated Water Option

Energy required for the Untreated Water Option would be related to pumping water from the expanded Los Vaqueros Reservoir to an EBMUD raw water reservoir and/or to a local EBMUD treatment facility in a drought, or at other times if needed, and for conveyance of water to its intended users. The amount of energy required for pumping depends on the quantity of water being conveyed.

Based on available information, the Untreated Water Option would require between 3,000 and 6,000 kWh/MG in dry years. The expected yield of this component is approximately 45 MGD, so a total of between 135,000 and 270,000 kWh per day (49,275 and 98,550 MWh annually) of energy would be required for operation. The Untreated Water Option is primarily anticipated to be operational during dry years. Based on the assumption that a typical California household consumes 6,500 kWh annually (CEC 2003), this component would consume roughly the same amount of electricity as between 7,581 and 15,162 households per year. In 2002, PG&E delivered over 76 million MWh of power to its electric customers (PG&E 2002); the Untreated Water Option would be estimated to require between 0.06% and 0.13% of PG&E's electric deliveries.

The actual energy use of new facilities proposed under this component will be confirmed at the project design stage and will depend on facility design and the use of emerging technologies that may increase energy efficiency. Because the actual energy use of the Untreated Water Option is not known, and the new facilities would come online at a yet to be determined time during the 30-year planning period, impacts on energy use would be *potentially significant*. However, incorporation of energy efficiency measures (Mitigation Measure 5.2.K-4 in the 2009 PEIR) would reduce this impact to a less-than-

significant level. Impacts on energy use would be evaluated as part of project-level CEQA documentation.

Future Expansion Option

Energy required for the Future Expansion Option would be related to pump water from the expanded Los Vaqueros Reservoir to the EBMUD service area, for local (in-District) treatment, and for upcountry treatment at the proposed pre-treatment plant in years 2 and 3 of a drought, and possibly during drought year 1 or during other non-drought situations. Energy required also takes into account the energy, required for conveyance of water to its intended users. The amount of energy required for pumping depends on quantity of water being conveyed. Under this option, up to 100 MGD of water would be treated at the proposed treatment facilities.

Based on available information, the Future Expansion Option would require between 3,000 and 6,000 kWh/MG in dry years. The expected yield of this component is between approximately 45 and 100 MGD, so a total of between 135,000 and 600,000 kWh per day (49,275 and 219,000 MWh annually) of energy would be required for operation. The Future Expansion Option is primarily anticipated to be operational during dry years. Based on the assumption that a typical California household consumes 6,500 kWh annually (CEC 2003), this component would consume roughly the same amount of electricity as between 7,581 and 33,692 households per year. In 2002, PG&E delivered over 76 million MWh of power to its electric customers (PG&E 2002); the Future Expansion Option would be estimated to require between 0.06% and 0.29% of PG&E's electric deliveries.

The actual energy use of new facilities proposed under this option will be confirmed at the project design stage and will depend on facility design and the use of emerging technologies that may increase energy efficiency. Because the actual energy use of the Future Expansion Option is not known, and the new facilities would come online at a yet to be determined time during the 30-year planning period, impacts on energy use would be ***potentially significant***. However, incorporation of energy efficiency measures (Mitigation Measure 5.2.K-4 in the 2009 PEIR) would reduce this impact to a less-than-significant level. Impacts on energy use would be evaluated as part of project-level CEQA documentation.

Energy required for the Future Expansion Option would be related to pumping water from the expanded Los Vaqueros Reservoir to the EBMUD service area, for treating that water at one or more locations in a drought, or during other times as needed. Energy required also takes into account the energy, required for conveyance of water to its intended users. The amount of energy required for pumping depends on quantity of water being conveyed.

Mitigation Measure 5.4.K-4: Incorporate Energy Efficiency Measures.

This Mitigation Measure is set forth on page 5.2.K-18 of the 2009 PEIR.

Impact Significance After Mitigation: *Less than Significant*

I. Environmental Justice

Option That Would Not Result in Impacts

The Untreated Water Option for the current expansion would be located within census tract 3400.02 in Contra Costa County. As shown in Tables 7-1 and 7-2, neither the minority population nor the low-income household population levels exceed 50 percent within this census tract. Disproportionate effects on minority and low-income communities would not occur, and no further discussion of this issue is required for this option.

Impact Discussion

5.2.L-1: Potential Environmental Justice Impacts.

The general discussion presented below addresses the following options:

- Treated Water - Boyd Road Intertie Option; and
- Treated Water - New Intertie Option.

As described in Chapter 5.2.L, Environmental Justice, of the 2009 PEIR, an Environmental Justice Study Area (EJSA) exists where the minority population and/or low-income population exceeds 50 percent of total population for that census tract. Proposed facilities for the Treated Water Options would be constructed in census tracts 3250, 3260, 3400.01, and 3400.02. Although racial minorities comprise well under 50 percent of the total population for these tracts and Contra Costa County as a whole, census tract 3400.01 has a low-income household population of 51 percent. Accordingly, this area could represent an EJSA, and construction in this area would have the potential to create a disproportionate adverse human health and environmental effect on low-income populations. As such, this impact is considered ***potentially significant***. While implementation of Mitigation Measures 5.2.L-1a and 5.2.L-1b would reduce this impact, it is not known if the impact would be reduced to a less-than-significant level. Further site-specific analysis would be required to determine the proposed facilities' potential effects on low-income communities within this census tract as well as in other facility locations that have not yet been identified.

Future Expansion Option

Proposed facilities for the Future Expansion Option would be constructed in census tracts 3400.02 in Contra Costa County and in other area(s) that have not yet been identified. As described above for the Treated Water Option, census tract 3400.02 does not contain minorities or low-income households in excess of 50 percent of the total population for that tract. Because the location of the proposed treatment facilities is has not been identified, construction of these facilities has the potential create a disproportionate adverse human health and environmental effect on low-income populations; as such, this impact is considered ***potentially significant***. While implementation of Mitigation Measures 5.2.L-1a and 5.2.L-1b would reduce this impact, it is not known if the impact would be reduced to a less-than-significant level. Further site-specific analysis would be required to determine the proposed facility's potential effects on low-income communities.

Mitigation Measure 5.2.L-1a: Implement mitigation measures regarding transportation, air quality, noise, and hazards.

Mitigation Measure 5.2.L-1b: Conduct environmental justice screening analysis.

These mitigation measures are set forth on page 5.2.L-5 of the 2009 PEIR.

Impact Significance After Mitigation: *Potentially Significant*

8. Supplemental Revisions to the Cumulative Impacts Analysis

8.1 Cumulative Setting Discussion

Section 8.3.2

The following projects set forth in Table 8-1 in Chapter 8 of the 2009 PEIR have now been completed: Berryman Reservoir Replacement Project; Richmond Advanced Recycled Expansion (RARE) Phase 1 Project; San Pablo Dam Seismic Upgrade Project; and the Round Hill Pressure Zone Improvement Project. The Water Treatment and Transmission Improvements Program (WTTIP) and the Schapiro Reservoir Replacement Project are scheduled for implementation within the coming years (between 2012 and 2020). The remaining projects as listed in the table were constructed prior to the release of the 2009 PEIR for WSMP 2040.

Section 8.3.6

The following discussion of the effort to develop a Delta Plan is added to the discussion of Sacramento-San Joaquin Delta Planning Efforts set forth on pages 8-7 through 8-9 of the 2009 PEIR:

The 2009 Sacramento-San Joaquin Delta Reform Act directed the Delta Stewardship Council (DSC) to develop, adopt, and commence implementation of a Delta Plan that furthers the defined coequal goals. The DSC released the Fifth Draft of the Delta Plan for review and comment and released a Draft Environmental Impact Report for the Delta Plan on November 4, 2011. Per the DSC, they expect to be in a position to certify a final EIR and adopt the Delta Plan in the Spring of 2012.

The Bay Delta Conservation Plan (BDCP) is discussed on page 8-8 of the 2009 PEIR. Factors have since delayed the release of the BDCP, and a Draft BDCP is now expected to be released in mid-2012.

Section 8.3.7

The Freeport Regional Water Project, which is mentioned on pages 8-9 and 8-10 of the 2009 PEIR, has now been completed.

These developments do not affect the analysis or conclusions regarding the potential for cumulative impacts that is set forth in Chapter 8 of the 2009 PEIR.

9. Supplemental Revisions to Other Portions of the 2009 PEIR

9.1 Irreversible or Irretrievable Commitment of Resources

The following discussion is added to the discussion on pages 9-1 and 9-2 of the 2009 PEIR to address the new facilities required for EBMUD participation in the Los Vaqueros Reservoir Expansion:

Implementation of the system improvements that would be required for EBMUD participation in the Los Vaqueros Reservoir Expansion would result in some irreversible or irretrievable commitment of resources and the use of fuel and other nonrenewable materials. In the long term, operation of EBMUD facilities associated with the expanded reservoir would require the use of energy. Operations and maintenance (O&M) activities would also be necessary for the proposed facilities and would involve labor as well as energy usage by construction equipment and vehicles, but this would be considered a relatively minor commitment of resources compared to their operation.

9.2 Potentially Significant Environmental Impacts Identified in this Supplemental PEIR

9.2.1 Enlarge Pardee Component

As noted in Chapter 4 of this Revised PEIR, supplemental revisions to the Land Use and Recreation Analysis for the Enlarge Pardee component were developed following the consideration of the enhanced information gathered on the Middle Bar Run segment of the Mokelumne River. As discussed in Section 4.2, Impact Analysis, this document is supplementing the discussion in Section 5.2.D of the 2009 WSMP PEIR. Impacts associated with the loss of whitewater rafting were deemed to be potentially significant. Other land use and recreational uses within the Middle Bar Reach can be reduced to a level that is less than significant.

9.2.2 Los Vaqueros Reservoir Expansion

The following discussion is added to the discussion on page 9-2 of the 2009 PEIR to include potentially significant impacts that would result from the new facilities required for EBMUD participation in the Los Vaqueros Reservoir Expansion:

Chapter 7 of the Revised PEIR assesses the environmental impacts of the EBMUD facilities proposed for the Los Vaqueros Reservoir Expansion, and concludes that the following impacts would be potentially significant and unavoidable:

- Impact 5.2.D-2: Potential impairment of recreation facilities and activities.

- Impact 5.2.F-2: Potential to violate an air quality standard or contribute substantially to an existing or projected air quality violation;
- Impact 5.2.F-3: Potential for a cumulatively considerable net increase of criteria pollutants for which the region is in nonattainment under an applicable national or State ambient air quality standard;
- Impact 5.2.F-4: Potential exposure of sensitive receptors to substantial pollutant concentrations;
- Impact 5.2.F-7: Potential to generate short-term and temporary GHG emissions during construction of the proposed project;
- Impact 5.2.G-1: Potential exposure of sensitive receptors to noise levels in excess of the applicable noise standards and/or result in a noticeable increase in ambient noise levels from short-term construction activities;
- Impact 5.2.G-2: Potential exposure of noise-sensitive receptors to noise levels in excess of the applicable noise standards and/or result in a noticeable increase in ambient noise levels from long-term operational activities;
- Impact 5.2.G-4: Potential exposure of sensitive receptors to excessive ground-borne noise and vibration levels (e.g., exceed FTA, Caltrans, and local guidelines); and
- Impact 5.2.L-1: Potential Environmental Justice Impacts.

9.3 Effects Found Not to Be Significant

The following discussion supplements the discussion on page 9-3 of the 2009 PEIR:

The Revised PEIR contains an analysis of the potentially significant impacts on environmental resources that would result from implementation of the EBMUD facilities required for the Los Vaqueros Reservoir Expansion. The analysis in the Revised PEIR regarding participation in the expansion of Los Vaqueros Reservoir determines that with the implementation of the identified mitigation measures the proposed facilities would have less-than-significant impacts on issues concerning hydrology, groundwater and water quality; geology, soils and seismicity; agricultural resources; recreation; biological resources; transportation; air quality; greenhouse gas emissions; noise; cultural resources; visual resources; hazards; and public services, utilities and energy. These impacts are discussed in the Revised PEIR.

APPENDIX A:

Correspondence from Silvia Burney, California Valley Miwok Tribe

From: s.burley@californiavalleymiwoktribe-nsn.gov
[mailto:s.burley@californiavalleymiwoktribe-nsn.gov]
Sent: Sunday, September 25, 2011 10:46 PM
To: Scott, Barry
Subject: CVMT Response to - EBMUD Revised Prgm Environmental Impact Report for the Water Supply Management Program

September 23, 2011

Mr. Barry Scott
Senior Archaeologist
AECOM
2020 L Street, Suite 400
Sacramento, California 95811

Re: East Bay Municipal Utility District Revised Program Environmental Impact Report for the Water Supply Management Program

Dear Mr. Scott,

The California Valley Miwok Tribe is in receipt of your letter (dated September 7, 2011). The letter states that, "AECOM is conducting preliminary assessments of potential impacts on cultural resources for a Revised Program Environmental Impact Report (PEIR) for the WSMP 2040." It is also stated that, "EBMUD is now in the process of preparing a revised PEIR for the WSMP 2040 that will focus on potential impacts to the Middle Bar segment of the Mokelumne River and to the Miwok ancestral gathering places, among other issues."

The California Valley Miwok Tribe is requesting to meet with representatives of East Bay Municipal Utility District (EBMUD) because we have never had a consultation meeting. We would like to personally meet the people in charge of this project so we can understand the Water Supply Management Program better, and know exactly who the person of contact is.

The California Valley Miwok Tribe is a federally recognized Tribe that has NEVER had consultation with authorized representatives from EBMUD or AECOM. The interest of our Tribe in regards to the proposed project is in the vicinity of the area Mokelumne Hill and Valley Springs, which are located in Calaveras County. As for the area of the project within Jackson located in Amador County, any Miwok gathering places and/or other issues should be properly addressed by the federally recognized Miwok Tribes whom reside within Amador County.

Sincerely,

/s/
Silvia Burley, Chairperson

*** Hard copy will arrive via regular first class mail ***

.....

California Valley Miwok Tribe
10601 N. Escondido Pl.
Stockton, CA 95212
Tribal Office: (209) 931-4567
Fax: (209) 931-4333

<http://www.californiavalleymiwoktribe-nsn.gov>

CALIFORNIA VALLEY MIWOK TRIBE

10601 N. Escondido Pl., Stockton, CA 95212 Ph: (209) 931.4567 Fax: (209) 931.4333

<http://www.californiavalleymiwoktribe-nsn.gov>



October 20, 2011

Mr. Tom Francis, P.E., Senior Civil Engineer
East Bay Municipal Utility District
375 Eleventh Street. MS 407
Oakland, California 94607-4240

Re: Comments regarding the East Bay Municipal Utility District Revised Environmental Impact Report for the Water Supply Management Project – WSMP 2040 Plan

Dear Mr. Francis,

It was a pleasure meeting you on Wednesday, October 19th, 2011, at the Tribal Office. As per our discussion, I am submitting the Tribe's comments on the East Bay MUD Revised Environmental Impact Report for the Water Supply Management Project.

The California Valley Miwok Tribe (a federally recognized Tribe, listed in the federal register and the Department of the Interior – Bureau of Indian Affairs – Spring 2011 Tribal Leaders Directory) has cultural concerns with the proposed East Bay MUD Revised Environmental Impact Report for the Water Supply Management Project (WSMP 2040 Plan). According to Chapter 5 of the 'Final October 2009 WSMP 2040 Plan' regarding Public Involvement, I did not see where East Bay MUD reached out to consult with Federally Recognized Tribes to discuss how the WSMP 2040 Plan may effect culturally sensitive sites that either are or near the proposed plan.

The California Valley Miwok Tribe is a landless tribe that has oversight on ten (10) counties that cover the Miwok traditional boundaries/territory (Alameda, Alpine, Calaveras, Contra Costa, Fresno, Madera, Merced, San Joaquin, Solano and Stanislaus – see attachment), the only Miwok territorial counties that the California Valley Miwok Tribe does not oversee (unless our presence is requested by another federally recognized Tribe to do so) is Amador, Sacramento and Tuolumne, this is due to the fact that these three (3) aforementioned counties already have federally recognized Miwok Tribal representation.

In regards to the WSMP 2040, the California Valley Miwok Tribe is interested in any part (s) of the plan/project that are within the vicinity of Calaveras County and/or San Joaquin County

At this time, the California Valley Miwok Tribe would also like to address a question that was brought to our attention. This question involved two (2) individuals by the name of Arvada Fisher and Fred Velasquez. Arvada Fisher does **NOT** represent a federally recognized Tribe. She is only an individual (see attachment) . Arvada Fisher is **NOT** federally recognized. Fred Velasquez is **NOT** a Miwok Indian. Mr. Velasquez is (according to a Stockton Record article dated May 6, 2007) is Aztec, Mixtec and Cherokee descent *** he has never provided a tribal card from the either of the Cherokee Nations proving his claim of Cherokee blood***). See attachment.

Arvada Fisher and/or Fred Velasquez has **NO** right or authority to speak, negotiate or claim cultural artifacts/sacred sites on the behalf of any of the federally recognized Miwok Tribes (United Auburn Indian Community, Shingle Springs Rancheria, Ione Band of Miwok Indians, Buena Vista Rancheria, Jackson Rancheria, California Valley Miwok Tribe, Wilton Rancheria, Tuolumne Rancheria, Chicken Ranch Rancheria of Miwok Indians and the Federated Indians of Graton Rancheria).

Finally, we would also like to clear up any misconception of there being two (2) separate Tribes. The Sheep Ranch Rancheria **NO** longer exists. In the 1960's Termination Era, although our Tribe was **NEVER** terminated, the 0.92 of an acre that was known at the Sheep Rancha Rancheria was deeded to an individual and is today held in trust for an individual member of our Tribe, but the Tribe itself is landless (see attachment). The California Valley Miwok Tribe was formerly known as the Sheep Ranch Band of Miwok Indians of California aka Sheep Ranch Rancheria. The Tribe officially changed its name June 7th, 2001 and has been listed year after year in the federal register as California Valley Miwok Tribe – see attachments. There are currently 565 federally recognized tribes across the United States including Alaska Natives (of which I have emailed you a pdf of the DOI Bureau of Indian Affairs Spring 2011 Tribal Leaders Directory). There are about 111 federally recognized tribes in California. There are three (3) regions in California, Northern, Central and Southern. The Central Region has Fifty-Two (52) tribes (see attachment).

The California Valley Miwok Tribe is a Custom & Tradition Tribe that gathers native plants for ceremonies, basket weaving and medicinal purposes. Therefore, in regards to the WSMP 2040 Plan, the California Valley Miwok Tribe would like to be kept apprised if any Miwok artifacts are found (if the project is to move forward), and we'd like to request to meet the representatives who oversee the East Bay MUD property on a daily basis so that we have a chance to begin a working relationship, and so that we can get to know each other on a more personal basis. The California Valley Miwok Tribe would also like to enter into a MOA with East Bay MUD to gather native plants.

Again, we here at the California Valley Miwok Tribe thank you for taking the time out of your busy schedule to meet with us and to learn of our concerns. We also thank you for allowing us to give our comments to the WSMP 2040 Plan.

Respectfully Submitted,



Silvia Burley, Chairperson
s.burley@californiavalleymiwoktribe-nsn.gov



change name of contact person

Friday, June 12, 2009 8:19 AM

From: "turnerdolores@comcast.net" <turnerdolores@comcast.net>

To: "Administrator's Silvia Burley Office" <californiavalleymiwoktribe@yahoo.com>

Native American Heritage Commission

Attn: Larry Myers Executive Secretary / Debbie Pilas-Treadway

This letter is to inform you that Arvada Fisher is no longer a member of the Calaveras County Mountain Miwuk Tribe, and has no recognition to our Tribe,

Our Contact person is the Vice-Chair Mark Fountain

C.C.M.M.

P.O. Box 913

West Point Ca. 95255

Sincerely

Midge Turner Chairperson

Calaveras County Mountain Miwuk Tribe

510 566-3670

News

RELIGION, LAW AND ROADKILL COLLIDE

LODE MAN CITED FOR PICKING ROADKILL OFF ROADSIDE FOR USE IN MIWOK CEREMONIES

 Print this Article

 Email this Article

Text Size: **A** | **A** | **A**

Photo 1 of 1 | Zoom Photo +



American Indian cultural preservationist Fred Velasquez in his studio in Paloma, east of Valley Springs. He faces the prospect of spending a year in jail as punishment for picking up a dead red-tail hawk. Dana M. Nichols/The Record

By **Dana M. Nichols**

May 06, 2007

Record Staff Writer

May 06, 2007 12:00 AM

PALOMA - Fred Velasquez wants the right to practice his religion.

Velasquez's faith is the Roundhouse tradition, the religion handed down by the Miwok people who have lived in these hills since before the arrival of European settlers. Currently, however, it is illegal for Velasquez to pick up the dead birds and animals whose bones and feathers make the regalia used in Roundhouse ceremonies.

The Calaveras County Fish and Game Commission hopes to change that and is asking the state authorities to allow the county to issue permits to religious practitioners such as Velasquez to salvage roadkill and other dead wildlife.

"It is an oversight on the part of our laws," said Mary Anne Garamendi, a member of the Calaveras Fish and Game Commission. The Commission voted unanimously April 25 to send a letter to the state asking for the power to issue permits for religious use of dead animals.

Velasquez, 57, is a well-known artist and singer of American Indian songs. Although he is of Aztec, Mixtec and Cherokee descent, he adopted the local Miwok religion. He formerly worked as a chaplain to American Indian inmates at Mule Creek State Prison.

Followers of the Roundhouse tradition are not allowed to kill any creature to use its parts in a ceremony, Velasquez said. They depend on finding birds and animals that have died naturally or in accidents. Roadkill is now a common source for costume parts.

So in December, when Velasquez saw a dead red-tail hawk next to Highway 12, he stopped, picked up the bird and began a prayer, promising it would once again feel wind pass through its feathers during ceremonies.

A California Department of Fish and Game warden was watching Velasquez through binoculars. She gave him a ticket and took the bird. The ticket said he could be jailed for a year or fined \$1,000, Velasquez said.

Velasquez was cited in San Joaquin County. David Irely, the San Joaquin County supervising district attorney who oversees environmental and game matters, decided not to prosecute the case after interviewing Velasquez, Miwok elders and a number of other people.

"He is in between what the law allows. But I don't think there's any jury in California that would have convicted him for what he was doing," Irely said.

Still, Irely said he also cannot condone violations of the fish and game code.

"And I would be interested in knowing and/or speaking to any Assembly member or (state) senator who is contemplating carrying a bill to clarify or make it lawful what he was doing."

Meanwhile, the Calaveras Fish and Game Commission letter has arrived at state Game Commission headquarters in Sacramento, and it awaits review by state Commission Executive Director John Carlson when Carlson returns next week from a meeting in San Diego, a staffer there said.

Feathers are scarce now in Velasquez's workshop in the tiny village of Paloma near Valley Springs. He does have plenty of dog bane, a plant he uses to make twine used for a variety of purposes, including decorating musical instruments.

Even the dog bane requires him to jump bureaucratic hurdles, getting a state highway permit to collect the plant from a shoulder and filing other papers so that highway crews won't kill the dog bane with herbicides.

Velasquez, who calls himself a "traditional Native American cultural preservationist," says he isn't the only one hurt if the government shuts off his supply of materials. That is because he makes flutes, clothing and other items for American Indian religious practitioners throughout California.

"I can't sell any of this stuff," Velasquez said. "I give it to people that need it or I trade it for other parts."

Contact reporter Dana M. Nichols at (209) 754-9534 or dnichols@recordnet.com.

[**VISIT HIS BLOG**](#)

[HOME](#)

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ORIGINAL

DEPARTMENT OF THE TREASURY
INTERNAL REVENUE SERVICE
Office of Indian Tribal Governments



TAX EXEMPT AND
GOVERNMENT ENTITIES DIVISION

Internal Revenue Service
750 B Street, Suite 1630
San Diego, CA 92101-8131

July 16, 2001

California Valley Miwok Tribe
Attn: Silvia Burley
1055 Winter Court
Tracy, CA 95376

Dear Ms. Burley:

After receiving confirmation of your tribe's name change from the United States Department of the Interior, the Internal Revenue Service made a name change for the previously known Sheep Ranch Tribe of Me-Wuk Indians, EIN 94-3340635. The new name shall read California Valley Miwok Tribe. The name change did not necessitate a new Employer Identification Number (EIN).

Please call me if I can answer or help clarify any questions you may have regarding this matter.

Sincerely,

A handwritten signature in cursive script that reads "E. Williamson".

E. Williamson
INDIAN TRIBAL GOVERNMENT SPECIALIST

ORIGINAL

Internal Revenue Service

Indian Tribal Governments

750 B. Street STE 1630
ITG: 7283
San Diego, CA 92101-8131
Fax: 619 230-8150

To: Melvia Burley From: Emily Williamson
 Fax: (209) 834-0318 Phone: 619 230-8165 xtn 126
 Phone: (209) 834-0197 Pages: 2
 Re: Name Change Date: 7/16/01

Urgent For Review Please Reply Confidential

Comments: Let me know if you need changes to the wording of the letter by 12:30pm. If I don't hear from you, I'll assume it meets with your approval. I'll mail the original to your attention.

CONFIDENTIALITY NOTICE

Emily

This communication is intended for the sole use of the individual to whom it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this communication is not the intended recipient, or the employee or agent for the delivering of this communication to the intended recipient, are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately by telephone call, return the communication to the address above via the United Postal Service. Thank You.



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Washington, D.C. 20240

IN REPLY REFER TO:

Tribal Government Services
BCCO 01792

JUN 7 2001

Honorable Silvia Burley
Chairperson, California Valley Miwok Tribe
aka "Sheep Ranch Rancheria of Me-Wuk
Indians of California"
1055 Winter Court
Tracy, California 95376

Dear Chairperson Burley:

Thank you for your letter dated April 9, 2001, regarding the Tribal Council's desire to change the name of the *Sheep Ranch Rancheria of Me-Wuk Indians of California* to the *California Valley Miwok Tribe*. You have received conflicting information on how to accomplish the name change so you've requested us to clarify the matter.

The *Sheep Ranch Rancheria (Tribe)* is a small tribe that does not have a tribal constitution. The Tribe has a tribal council and conducts tribal business through resolution. A tribal resolution, such as resolution No. R-1-5-07-201, enacted by the Tribal Council on May 7, 2001, is sufficient to effect the tribal name change. The Tribe's new name has been included on the Tribal Entities List that will be published in the FEDERAL REGISTER later this year.

Some tribes have constitutions that contain a provision that specifically states the tribe's official name. In that situation, the tribe will have to amend that particular provision in the constitution before the new name will be published in the FEDERAL REGISTER. On the other hand, if the tribal constitution does not contain a provision that sets out the tribe's official name, an amendment to the constitution is unnecessary. In such instances, the tribe can change its name by enacting a tribal ordinance to establish its official name.

We hope that this information resolves the matter for you.

Sincerely,

Deputy Commissioner of Indian Affairs

cc: Regional Director, Pacific Region w/copy of incoming
Superintendent, Central California Agency w/copy of incoming

Dated: August 5, 2010.

Mark J. Musaus,

Acting Regional Director.

[FR Doc. 2010-24668 Filed 9-30-10; 8:45 am]

BILLING CODE 4310-65-P

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

Indian Entities Recognized and Eligible To Receive Services From the United States Bureau of Indian Affairs

AGENCY: Bureau of Indian Affairs, Interior.

ACTION: Notice.

SUMMARY: This notice publishes the current list of 564 tribal entities recognized and eligible for funding and services from the Bureau of Indian Affairs by virtue of their status as Indian tribes. The list is updated from the notice published on August 11, 2009 (74 FR 40218).

FOR FURTHER INFORMATION CONTACT: Elizabeth Colliflower, Bureau of Indian Affairs, Division of Tribal Government Services, Mail Stop 4513-MIB, 1849 C Street, NW., Washington, DC 20240. Telephone number: (202) 513-7641.

SUPPLEMENTARY INFORMATION: This notice is published pursuant to Section 104 of the Act of November 2, 1994 (Pub. L. 103-454; 108 Stat. 4791, 4792), and in exercise of authority delegated to the Assistant Secretary—Indian Affairs under 25 U.S.C. 2 and 9 and 209 DM 8.

Published below is a list of federally acknowledged tribes in the contiguous 48 states and in Alaska.

Amendments to the list include name changes and name corrections. To aid in identifying tribal name changes, the tribe's former name is included with the new tribal name. To aid in identifying corrections, the tribe's previously listed name is included with the tribal name. We will continue to list the tribe's former or previously listed name for several years before dropping the former or previously listed name from the list.

The listed entities are acknowledged to have the immunities and privileges available to other federally acknowledged Indian tribes by virtue of their government-to-government relationship with the United States as well as the responsibilities, powers, limitations and obligations of such tribes. We have continued the practice of listing the Alaska Native entities separately solely for the purpose of facilitating identification of them and reference to them given the large number of complex Native names.

Dated: September 22, 2010.

Larry Echo Hawk,

Assistant Secretary—Indian Affairs.

Indian Tribal Entities Within the Contiguous 48 States Recognized and Eligible To Receive Services From the United States Bureau of Indian Affairs

Absentee-Shawnee Tribe of Indians of Oklahoma
 Agua Caliente Band of Cahuilla Indians of the Agua Caliente Indian Reservation, California
 Ak Chin Indian Community of the Maricopa (Ak Chin) Indian Reservation, Arizona
 Alabama-Coushatta Tribes of Texas
 Alabama-Quassarte Tribal Town, Oklahoma
 Alturas Indian Rancheria, California
 Apache Tribe of Oklahoma
 Arapahoe Tribe of the Wind River Reservation, Wyoming
 Aroostook Band of Micmac Indians of Maine
 Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation, Montana
 Augustine Band of Cahuilla Indians, California (formerly the Augustine Band of Cahuilla Mission Indians of the Augustine Reservation)
 Bad River Band of the Lake Superior Tribe of Chippewa Indians of the Bad River Reservation, Wisconsin
 Bay Mills Indian Community, Michigan
 Bear River Band of the Rohnerville Rancheria, California
 Berry Creek Rancheria of Maidu Indians of California
 Big Lagoon Rancheria, California
 Big Pine Band of Owens Valley Paiute Shoshone Indians of the Big Pine Reservation, California
 Big Sandy Rancheria of Mono Indians of California
 Big Valley Band of Pomo Indians of the Big Valley Rancheria, California
 Blackfeet Tribe of the Blackfeet Indian Reservation of Montana
 Blue Lake Rancheria, California
 Bridgeport Paiute Indian Colony of California
 Buena Vista Rancheria of Me-Wuk Indians of California
 Burns Paiute Tribe of the Burns Paiute Indian Colony of Oregon
 Cabazon Band of Mission Indians, California
 Cachil DeHe Band of Wintun Indians of the Colusa Indian Community of the Colusa Rancheria, California
 Caddo Nation of Oklahoma
 Cahuilla Band of Mission Indians of the Cahuilla Reservation, California
 Cahto Indian Tribe of the Laytonville Rancheria, California
 California Valley Miwok Tribe, California
 Campo Band of Diegueno Mission Indians of the Campo Indian Reservation, California

Capitan Grande Band of Diegueno Mission Indians of California
 Barona Group of Capitan Grande Band of Mission Indians of the Barona Reservation, California
 Viejas (Baron Long) Group of Capitan Grande Band of Mission Indians of the Viejas Reservation, California
 Catawba Indian Nation (aka Catawba Tribe of South Carolina)
 Cayuga Nation of New York
 Cedarville Rancheria, California
 Chemehuevi Indian Tribe of the Chemehuevi Reservation, California
 Cher-Ae Heights Indian Community of the Trinidad Rancheria, California
 Cherokee Nation, Oklahoma
 Cheyenne and Arapaho Tribes, Oklahoma (formerly the Cheyenne-Arapaho Tribes of Oklahoma)
 Cheyenne River Sioux Tribe of the Cheyenne River Reservation, South Dakota
 Chickasaw Nation, Oklahoma
 Chicken Ranch Rancheria of Me-Wuk Indians of California
 Chippewa-Cree Indians of the Rocky Boy's Reservation, Montana
 Chitimacha Tribe of Louisiana
 Choctaw Nation of Oklahoma
 Citizen Potawatomi Nation, Oklahoma
 Cloverdale Rancheria of Pomo Indians of California
 Cocopah Tribe of Arizona
 Coeur D'Alene Tribe of the Coeur D'Alene Reservation, Idaho
 Cold Springs Rancheria of Mono Indians of California
 Colorado River Indian Tribes of the Colorado River Indian Reservation, Arizona and California
 Comanche Nation, Oklahoma
 Confederated Salish & Kootenai Tribes of the Flathead Reservation, Montana
 Confederated Tribes of the Chehalis Reservation, Washington
 Confederated Tribes of the Colville Reservation, Washington
 Confederated Tribes of the Coos, Lower Umpqua and Siuslaw Indians of Oregon
 Confederated Tribes of the Goshute Reservation, Nevada and Utah
 Confederated Tribes of the Grand Ronde Community of Oregon
 Confederated Tribes of Siletz Indians of Oregon (previously listed as the Confederated Tribes of the Siletz Reservation)
 Confederated Tribes of the Umatilla Reservation, Oregon
 Confederated Tribes of the Warm Springs Reservation of Oregon
 Confederated Tribes and Bands of the Yakama Nation, Washington
 Coquille Tribe of Oregon
 Cortina Indian Rancheria of Wintun Indians of California
 Coushatta Tribe of Louisiana

*Tribal Leaders and
BIA Representatives
Pacific Region*

BIA Agency Office: Central California Agency

Self-Gov. Compact:

Term of Office - Expiration Date: N/A

Silvia Burley, Chairperson
California Valley Miwok Tribe
10601 N. Escondido Place
Stockton, CA 95212

Phone No: (209) 931-4567 Fax No: (209) 931-4333

e-mail: office@cvmf.net

web site: www.calliforniavalleymiwoktribe-nsn.gov

Express Mail - Package Delivery Services:

10601 N. Escondido Pl., Stockton, CA 95212

BIA Agency Office: Northern California Agency

Self-Gov. Compact:

Term of Office - Expiration Date: Jan 2012

Cherie Rhoades, Chairperson
Cedarville Rancheria
300 West 1st Street
Alturas, CA 96101

Phone No: (530) 233-3969 Fax No: (530) 233-4776

e-mail: cedranch@citlink.net

web site: www.cedarvillerrancheria.net

Express Mail - Package Delivery Services: FEDEX - UPS - USPS

300 West 1st Street, Alturas, CA 96101

BIA Agency Office: Central California Agency

Self-Gov. Compact:

Term of Office - Expiration Date: Jul 2014

Patricia Hermosillo, Chairperson
Cloverdale Rancheria of Pomo Indians
555 S. Cloverdale Blvd.
Cloverdale, CA 95425

Phone No: (707) 894-5775 Fax No: (707) 894-5727

e-mail: Not Available

web site: www.cloverdalerancheria.com

Express Mail - Package Delivery Services: FEDEX - UPS - USPS

555 S. Cloverdale Blvd., Cloverdale, CA 95425

BIA Agency Office: Southern California Agency

Self-Gov. Compact:

Term of Office - Expiration Date: Apr 2012

Monique LaChappa, Chairperson
Campo Band of Diegueno Mission Indians
36190 Church Road, Suite 1
Campo, CA 91906

Phone No: (619) 478-9046 Fax No: (619) 478-5818

e-mail: Not Available

web site: www.campo-nsn.gov

Express Mail - Package Delivery Services: FEDEX - UPS - USPS

36190 Church Road, Suite 1, Campo, CA 91906

BIA Agency Office: Central California Agency

Self-Gov. Compact:

Term of Office - Expiration Date: Jan 2014

Lloyd Mathieson, Chairman
Chicken Ranch Rancheria of Me-wuk Indians
P.O. Box 1159
Jamestown, CA 95327

Phone No: (209) 984-4806 Fax No: (209) 984-5606

e-mail: chixrnch@mlode.com

web site: None

Express Mail - Package Delivery Services:

16955 Nelson Road, Jamestown, CA 95327

BIA Agency Office: Central California Agency

Self-Gov. Compact:

Term of Office - Expiration Date: May 2011

Robert Marquez, Chairman
Gold Springs Rancheria of Mono Indians
P.O. Box 209
Tollhouse, CA 93667

Phone No: (559) 855-5043 Fax No: (559) 855-4445

e-mail: Not Available

web site: www.coldspringsrancheria.com

Express Mail - Package Delivery Services:

32861 Sycamore Road #300, Tollhouse, CA 93667

DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

OFFICE OF INDIAN SERVICES

TRIBAL LEADERS DIRECTORY

SPRING 2011



The printing date appears on the lower left-hand corner of the pages in section 2.

A copy of the Microsoft Access 2003 database file or Adobe Acrobat file can be obtained by regular mail or e-mail. Specify the file format you need and provide a mailing address to Amanda Begay.

Phone: (202) 513-7640 Fax: (202) 208-5113
E-mail: Amanda.Begay@BIA.gov

This directory is posted on the Bureau of Indian Affairs website. Go to the internet address below, under "Frequently Requested Documents."

<http://www.bia.gov/DocumentLibrary/index.htm>





Federal Communications Commission
Wireless Telecommunications Bureau
1270 Fairfield Road
Gettysburg, PA 17325-7245

44

WEEKLY NOTICE OF TOWER CONSTRUCTION NOTIFICATION SYSTEM FILINGS

Chairperson, Silvia Burley
California Valley Miwok Tribe
10601 N. Escondido Pl.
Stockton, CA 95212

Date: 09/15/2011

The Federal Communications Commission extends its greetings to you. Thank you for using our Tower Construction Notification System (TCNS). This letter is a notice of proposed tower construction notifications submitted by tower builders within the last week, which match the geographic area(s) for which you have chosen to receive such notifications.

In order to promote the efficiency of the FCC's process for protecting historic properties, including Tribal traditional cultural properties, we respectfully request that you respond within no more than 30 days as to your interest or lack of interest in each of the proposed constructions listed below. You may respond either through the TCNS as described at the end of this Notice, directly to the entity submitting the notification, or by contacting one of the FCC employees listed below. Your prompt response will avoid the need for repetitive follow-up contacts that unnecessarily consume the resources of all parties involved in the process.

Please also be aware that, pursuant to the Best Practices guidance document between the FCC and United South and Eastern Tribes (USET) that was released in October 2004, the USET member Tribes have agreed to a recommended best practice to respond to these "initial contact" notifications within 14 days. Created with the input of Tribes and Tribal organizations from across Indian Country, and recognizing that cultural preservation processes vary greatly among the many Tribal Nations, the TCNS was designed to facilitate the initial contact process.

The following list indicates the geographic area(s) of interest which you have indicated to receive notifications of proposed tower constructions:

- CALIFORNIA, ALAMEDA County
- CALIFORNIA, ALPINE County
- CALIFORNIA, CALAVERAS County
- CALIFORNIA, CONTRA COSTA County
- CALIFORNIA, FRESNO County
- CALIFORNIA, MADERA County
- CALIFORNIA, MERCED County
- CALIFORNIA, SAN JOAQUIN County
- CALIFORNIA, SOLANO County
- CALIFORNIA, STANISLAUS County

The Tower Construction Notification Submissions received during the last week, which match your areas of interest, are listed and detailed below.

Zimbra

s.burley@californiavalleytribe-nsn.gov

± Font size :

FW: Tribal Mail List 03-18-2011**From :** Lisa Murray <Lisa.Murray@bla.gov>**Subject :** FW: Tribal Mail List 03-18-2011

Fri Mar 18 2011 4:20:37 PM

1 attachment

To : silver@cloverdalerancheria.com, marycamp@cloverdalerancheria.com, Jennifer Heaps <JenniferH@drycreekrancheria.com>, LRoss@gratonrancheria.com, Bill Lancaster <BLancaster@gratonrancheria.com>, fiscal@cahto.org, ta@cahto.org, Christine~ <christimarie@earthlink.net>, rvrfiscal@comcast.net, triadminstrator <adminstrator@rvit.org>, mjohnson@rvit.org, Colleen Pringle <colleenpringle@comcast.net>, s burley <s.burley@californiavalleytribe-nsn.gov>, mpa-rancheria@hughes.net, Rosy <pvtadminsecretary@pottervalleytribe.com>, Lynne Imsdahl <Lynne@stewartspointrancheria.com>, Dollie Rose <karukee@yahoo.com>, lailaderouen@sbcglobal.net, Liz DeRouen <lizderouen@sbcglobal.net>, 'lorraine!' <lorraine_1@comcast.net>

Good Friday all,

Attached is a current tribal list for the tribes we service at Central California Agency, it is updated when there are changes in phone numbers or addresses, and of recent tribal elections.

Our next project in Indian Self-Determination is getting ready to request for Contract Support Costs. We are still working on getting FY11 TPA funds out, as we are currently operating on Continuing Resolution #5 @ 46:30% to March 18, 2011, we have another Continuing Resolution on its way. I haven't seen any upcoming trainings this week, but sending you an email we received regarding Japan's emergency and some helpful resources. Stay dry and take care!

Sincerely,
Lisa**EPA Statement on Air Monitoring Effort**

3/15/2011 WASHINGTON - As the Nuclear Regulatory Commission has said, we do not expect to see radiation at harmful levels reaching the U.S. from damaged Japanese nuclear power plants. As part of the federal government's continuing effort to make our activities and science transparent and available to the public, the Environmental Protection Agency (EPA) will continue to keep all RadNet data available in the current online database. In addition, EPA plans to work with its federal partners to deploy additional monitoring capabilities to parts of the western U.S. and U.S. territories. As always, EPA is utilizing this existing nationwide radiation monitoring system, RadNet, which continuously monitors the nation's air and regularly monitors drinking water, milk and precipitation for environmental radiation. The RadNet online searchable database contains historical data of environmental radiation monitoring data from all fifty states and U.S. territories.

Source: <http://www.epa.gov/radiation/statement.html>**California Dept. of Public Health (CDPH) FAQ 3/15/11**

The California Department of Public Health (CDPH) has established a public information response line within the Joint Emergency Operations Center at (916) 341-3947 to answer questions about the impact to public health in California. The information line is staffed from 8 AM to 5 PM daily. CDPH is preparing materials related to this incident that will be posted on www.cdph.ca.gov, www.bepreparedcalifornia.ca.gov. According to the Nuclear Regulatory Commission (NRC), Japan's nuclear emergency presents no danger to California. CDPH is monitoring the situation closely in conjunction with our state and federal partners, including NRC, U.S. Environmental Protection Agency, the U.S. Department of Energy, FEMA Region IX, and the California

California Emergency Management Agency (CalEMA).

California has a plan of response for radiological emergencies if one were to arise. Plans include the Nuclear Radiological Emergency Program and the National Response Framework.

Q&A

- Q. What's the risk for California from the current nuclear power emergency in Japan?
A. At present, the Nuclear Regulatory Commission (NRC) says Japan's nuclear emergency presents no danger to California.
- Q. What are you doing to assess the risk?
A. CDPH is monitoring the situation closely in conjunction with our State and federal partners.
- Q. What resources does California have to tell if radiation is present in the environment?
A. CDPH has a radiological branch and routinely tests air, water and the food supply.
- Q. Does California have a plan in place to respond to a radiological emergency?
A. CDPH has a plan for response to radiological emergencies, called the Nuclear Emergency Response Plan.

David Keyser, President
AUBURN RANCHERIA
10720 Indian Hill Road
Auburn, CA 95603
Telephone: (530) 883-2390
Facsimile: (530) 883-2380

Blille Sauque, Chairman
BENTON PAIUTE RESERVATION
25669 Hwy 6, PMB 1
Benton, CA 93512
Telephone: (760) 933-2321
Facsimile: (760) 933-2412

James Edwards, Chairman
BERRY CREEK RANCHERIA
5 Tyne Way
Oroville, CA 95966
Telephone: (530) 534-3859
Facsimile: (530) 534-1151

Virgil Moose, Chairperson
BIG PINE RESERVATION
Post Office Box 700
Big Pine, CA 93513
Telephone: (760) 938-2003
Facsimile: (760) 938-2942

Elizabeth Kipp, Chairperson
BIG SANDY RANCHERIA
Post Office Box 337
Auberry, CA 93602
Telephone: (559) 855-4003
Facsimile: (559) 855-4129

Valentino Jack, Chairman
BIG VALLEY RANCHERIA
2726 Mission Rancheta Rd.
Lakeport, CA 95453
Telephone: (707) 263-3924
Facsimile: (707) 263-3977

William Vega, Chairman
BISHOP RESERVATION
50 TuSu Lane
Bishop, CA 93514
Telephone: (760) 873-3584
Facsimile: (760) 873-4143

Joseph Sam, Chairperson
BRIDGEPORT INDIAN COLONY
Post Office Box 37
Bridgeport, CA 93517
Telephone: (760) 932-7083
Facsimile: (760) 932-7846

Rhonda Morningstar Pope, Chairwoman
BUENA VISTA RANCHERIA
Post Office Box 162283
Sacramento, CA 95816
Telephone: (916) 491-0011
Facsimile: (916) 491-0012

Silvia Burley, Chairperson
CALIFORNIA VALLEY MIWOK TRIBE
10601 N. Escondido Place
Stockton, CA 95212
Telephone: (209) 931-4567
Facsimile: (209) 931-4333

Lloyd Mathiesen, Chairman
CHICKEN RANCH RANCHERIA
Post Office Box 1159
Jamestown, CA 95327
Telephone: (209) 984-4806
Facsimile: (209) 984-5606

Dennis Ramirez, Chairman
CHICO RANCHERIA
125 Mission Ranch Blvd.
Chico, CA 95926
Telephone: (530) 899-8922
Facsimile: (530) 899-9517

Patricia Hemosillo, Chairperson
CLOVERDALE RANCHERIA
555 S. Cloverdale Blvd., Suite 1
Cloverdale, CA 95425
Telephone: (707) 894-5775
Facsimile: (707) 894-5727

Robert Marquez, Chairman
COLD SPRINGS RANCHERIA
Post Office Box 209
Tollhouse, CA 93667
Telephone: (559) 855-5043
Facsimile: (559) 855-4445

Daniel Gomez, Chairman
COLUSA RANCHERIA
3730 Highway 45
Colusa, CA 95932
Telephone: (530) 458-8231
Facsimile: (530) 458-3866

Charlie Wright, Chairperson
CORTINA RANCHERIA
Post Office Box 1630
Williams, CA 95987
Telephone: (530) 473-3274
Facsimile: (530) 473-3301

John Feliz, Jr., Chairman
COYOTE VALLEY RESERVATION
Post Office Box 39
Redwood Valley, CA 95470
Telephone: (707) 485-8723
Facsimile: (707) 485-1247

Harvey Hopkins, Chairman
DRY CREEK RANCHERIA
Post Office Box 607
Geyserville, CA 95441
Telephone: (707) 473-2178
Facsimile: (707) 473-2171

Nathan Brown, II, Chairman
ELEM INDIAN COLONY
Post Office Box 435
Clearlake Oaks, CA 95457
Telephone: (707) 295-6131
Facsimile: (707)

Glenda Nelson, Chairwoman
ENTERPRISE RANCHERIA
3690 Olive Highway
Oroville, CA 95966
Telephone: (530) 532-9214
Facsimile: (530) 532-1768

Israel Naylor, Chairman
FT. INDEPENDENCE RESERVATION
Post Office Box 67
Independence, CA 93526
Telephone: (760) 878-5160
Facsimile: (760) 878-2311

Greg Sams, Chairman
GRATON RANCHERIA
6400 Redwood Drive, Suite 300
Rohnert Park, CA 94928
Telephone: (707) 566-2288
Facsimile: (707) 566-2291

Kyle Self, Chairman
GREENVILLE RANCHERIA
Post Office Box 279
Greenville, CA 95947
Telephone: (530) 284-7990
Facsimile: (530) 284-6612

Ronald Kirk, Chairman
GRINDSTONE RANCHERIA
Post Office Box 63
Elk Creek, CA 95939
Telephone: (530) 968-5365
Facsimile: (530) 968-5366

Merlene Sanchez, Acting Chairperson
GUIDVILLE RANCHERIA
Post Office Box 339
Talmage, CA 95481
Telephone: (707) 462-3682
Facsimile: (707) 462-9183

Shawn Pady, Chairman
HOPLAND RESERVATION
3000 Shanel Road
Hopland, CA 95449
Telephone: (707) 472-2100
Facsimile: (707) 744-1506

Johnny Jamerson, Vice Chairman
IONE BAND OF MIWOK INDIANS
Post Office Box 699
Plymouth, CA 95669
Telephone: (209) 245-5800
Facsimile: (209) 245-3112

Acting Tribal Chair
JACKSON RANCHERIA
Post Office Box 398
Orland, CA 95963
Telephone: (530) 865-2010
Facsimile: (530) 865-1870

Cristy Nelson, Chairperson
LAYTONVILLE RANCHERIA
Post Office Box 1239
Laytonville, CA 95454
Telephone: (707) 984-6197
Facsimile: (707) 984-6201

Melvin Joseph, Chairperson
LONE PINE RESERVATION
Post Office Box 747
Lone Pine, CA 93545
Telephone: (760) 876-1034
Facsimile: (760) 876-8302

Daniel Beltran, Chairman
LOWER LAKE RANCHERIA
Post Office Box 3162
Santa Rosa, CA 95402
Telephone: (707) 575-5586
Facsimile: (707) 575-5586

Marjorie Mejia, Chairperson
LYTTON RANCHERIA
437 Aviation Blvd.
Santa Rosa, CA 95403
Telephone: (707) 575-5917
Facsimile: (707) 575-6974

Nelson Pinola, Chairman
MANCHESTER-PT ARENA RANCHERIA
Post Office Box 623
Point Arena, CA 95468
Telephone: (707) 882-2788
Facsimile: (707) 882-3417

Carl Rivera, Chairman
MIDDLETOWN RANCHERIA
Post Office Box 1035
Middletown, CA 95461
Telephone: (707) 987-3670
Facsimile: (707) 987-9091

Gary Archuleta, Chairman
MOORETOWN RANCHERIA
1 Alverda Drive
Oroville, CA 95966
Telephone: (530) 533-3625
Facsimile: (530) 533-3680

Judy E. Fink, Chairperson
NORTH FORK RANCHERIA
Post Office Box 929
North Fork, CA 93643-0929
Telephone: (559) 877-2461
Facsimile: (559) 877-2467

Andrew Freeman, Chairman
PASKENTA RANCHERIA
Post Office Box 386
Orland, CA 95963
Telephone: (530) 865-2010
Facsimile: (530) 865-1870

Reggie Lewis, Chairperson
PICAYUNE RANCHERIA
46575 Road 417
Coarsegold, CA 93614
Telephone: (559) 683-6633
Facsimile: (559) 683-0599

Leona Williams, Chairperson
PINOLEVILLE RESERVATION
500 B Pinoleville Drive
Ukiah, CA 95482
Telephone: (707) 463-1454
Facsimile: (707) 463-6601

Salvador Rosales, Chairman
POTTER VALLEY RANCHERIA
2251 South State Street
Ukiah, CA 95482
Telephone: (707) 462-1213
Facsimile: (707) 462-1240

Elizabeth Hansen, Chairperson
REDWOOD VALLEY RESERVATION
3250 Road 1
Redwood Valley, CA 95470
Telephone: (707) 485-0361
Facsimile: (707) 485-5726

Tracey Avila, Chairperson
ROBINSON RANCHERIA
Post Office Box 4015
Nice, CA 95464
Telephone: (707) 275-0527
Facsimile: (707) 275-8736

Kevin Day, Chairman
TULE RIVER RESERVATION
Post Office Box 589
Porterville, CA 93258
Telephone: (559) 781-4271
Facsimile: (559) 781-4610

Ryan Garfield, Chairman
TULUMME RANCHERIA
Post Office Box 699
Tulumme, CA 95379
Telephone: (209) 928-3475
Facsimile: (209) 928-1677

Sherry Treppa, Chairperson
UPPER LAKE RANCHERIA
Post Office Box 516
Upper Lake, CA 95485
Telephone: (707) 275-0737
Facsimile: (707) 275-0757

Mary Tarango, Interm Chairperson
WILTON RANCHERIA
9300 West Stockton Blvd., Ste. 205
Elk Grove, CA 95758
Telephone: (916) 683-6000
Facsimile: (916) 683-6015

Michael Fitzgerald, Chairman
SHERWOOD VALLEY RANCHERIA
190 Sherwood Hill Drive
Willits, CA 95490
Telephone: (707) 459-9690
Facsimile: (707) 459-6936

Nick Fonseca, Chairman
SHINGLE SPRINGS RANCHERIA
Post Office Box 1340
Shingle Springs, CA 95682
Telephone: (530) 676-8010
Facsimile: (530) 676-8033

Ralph Sepulveda, Chairman
STEWARTS POINT RANCHERIA
3535 Industrial Drive, Suite B-2
Santa Rosa, CA 95403
Telephone: (707) 591-0580
Facsimile: (707) 591-0583

Leanne Walker-Grant, Chairperson
TABLE MOUNTAIN RANCHERIA
Post Office Box 410
Friant, CA 93626
Telephone: (559) 822-2587
Facsimile: (559) 822-2693

TIMBISHA SHOSHONE TRIBE
Telephone:
Facsimile:

Marshall McKay, Chairman
YOCHA DEHE WINTUN NATION
Post Office Box 18
Brooks, CA 95606
Telephone: (530) 796-3400
Facsimile: (530) 796-2143

APPENDIX B:
Los Vaqueros Reservoir Expansion Technical Analysis
Prepared by EBMUD Staff

Los Vaqueros Reservoir Expansion – EBMUD System Improvements

(Updated 10/13/11)

OPTION 1 – CCWD-EBMUD Treated Water Intertie

There are two primary issues with the existing CCWD-EBMUD treated water intertie at Boyd Road in Walnut Creek.

1. Limited Winter Distribution Capacity – Rationed winter demand in the Leland Pressure Zone (PZ) is approximately 5 million gallons per day (mgd). All the water from the Boyd Road intertie at approximately 8 mgd cannot be consumed solely within the Leland PZ. Pipeline extensions are required for adequate transmission of intertie water.
2. Grayson Reservoir Water Quality – Grayson Reservoir sits low in the Leland PZ. During normal operations Grayson Reservoir is often full, which results in long detention times. This creates a nitrification water quality issue in the reservoir. The Grayson Level Control Valve (LCV) is currently under construction and will be on a major 36-inch transmission line between Grayson Reservoir and the Walnut Creek Water Treatment Plant (WTP). The valve can be remotely closed to allow Grayson Reservoir to drain and serve localized Leland PZ demand. The Boyd Road intertie is located between the reservoir and level control valve. When pumping water from CCWD to EBMUD through the Boyd Road intertie, the pressure in the District's Leland PZ around Boyd Road is high and Grayson Reservoir cannot drain. The nitrification issue is further pronounced since CCWD water normally has a higher nitrification potential.

OPTION 3 (160 Thousand Acre-Foot [TAF] LVE) & 4 (275 TAF LVE) – CCWD-EBMUD Raw Water Intertie at Mokelumne Aqueduct No. 2

There are two primary issues with the existing CCWD-EBMUD raw water intertie in Brentwood.

1. Available Aqueduct Capacity – Improvements are required to provide the maximum available capacity through Mokelumne Aqueducts No. 1 and 3 while CCWD water is being transferred in Mokelumne Aqueduct No. 2.
2. Water Quality Separation – CCWD water is delivered to Mokelumne Aqueduct No. 2. If Pardee water is simultaneously delivered through Mokelumne Aqueduct No. 1 and 3 for treatment at inline water filtration plants, the California Department of Public Health requires a physical separation between the two raw water sources so that the inline water filtration plants only receive Pardee quality water. There is currently no reliable way to separate the systems during a delivery of CCWD water in Mokelumne Aqueduct No. 2 to the District while maintaining Mokelumne Aqueduct No. 1 in service delivering Pardee water.

Table 1. Treated Water Intertie Improvements

IMPROVEMENT	LOCATION	REASON	ESTIMATED COST
<p><u>Alternative A – Existing Boyd Rd Intertie</u></p> <ul style="list-style-type: none"> • ~11,000 LF of 24” pipe on Pleasant Hill Rd, Geary Rd, and Larkey Ln (between Boyd Rd and Alvarado Ave) • Instrumentation and control • Portable pump 	<p>Boyd Rd Intertie (Boyd Rd at Pleasant Hill Rd, Walnut Creek)</p>	<p>The new, dedicated intertie pipeline connection is south of Grayson LCV and minimizes water quality impacts to Grayson Reservoir.</p> <p>The new intertie pipe connects to the dedicated 84”Danville PP suction line so that intertie water is transmitted throughout the distribution system.</p>	<p>~\$6,000,000 (pipeline)</p>
<p><u>Alternative B – New CCWD-EBMUD Treated Water Intertie</u></p> <ul style="list-style-type: none"> • ~4,000 LF of 24” pipe on Buena Vista Ave (between Geary Rd and Alvarado Ave) • ~3,000 LF of 24” pipe on Geary Rd (btwn Buena Vista Rd and North Main St) • Permanent intertie pumping plant (~12 mgd) at Walnut Creek RWPP with remote control and instrumentation 	<p>New Intertie at Geary Rd/Bueana Vista Rd, Walnut Creek</p>	<p>The new intertie location is south of Grayson LCV and minimizes water quality impacts to Grayson Reservoir.</p> <p>Installation of new pumping plant on existing District property allows remote operational schemes consistent in the Leland PZ.</p> <p>The new intertie pipe connects to the dedicated 84”Danville PP suction line so that intertie water is transmitted throughout the distribution system.</p> <p>The new intertie configuration allows for continuous summer and winter operation at an average annual rate of ~8-10 mgd.</p>	<p>~\$4,000,000 (pipeline) ~\$4,000,000(pump plant)</p>

Standard Abbreviations: PZ = Pressure Zone, WTP = Water Treatment Plant, PP = Pumping Plant, DPH = Dept. of Public Health, FRWP = Freeport Regional Water Project, TAF = Thousand Acre Feet, Mok Aq = Mokelumne Aqueduct, LF = Linear Feet, LCV = Level Control Valve, CCWD = Contra Costa Water District, EBMUD = East Bay Municipal Utility District

Table 3. CCWD-EBMUD Raw Water Intertie Improvements – Option 3 (160 TAF LVE)

IMPROVEMENT	LOCATION	REASON	ESTIMATED COST
<p><u>Check Valve</u></p> <ul style="list-style-type: none"> Replace/retrofit one or two existing 60-inch check valves to have manual locked close functionality. 	Walnut Creek East Portal	DPH double valve separation requirement to isolate non-Pardee water from the inline filtration water treatment plants	~\$1,000,000
<p><u>Mokelumne Aqueduct No. 1 and 3 Interconnection</u></p> <ul style="list-style-type: none"> Interconnection between Mok Aq No. 1 and 3 with two 54-inch isolation valves 	Walnut Creek East Portal	Mok Aq interconnections are currently proposed at Stockton and Bixler. Flow is constricted between Bixler and Walnut Creek. New interconnection at Walnut Creek East Portal improves capacity through the Mok Aq No. 1 and 3 to the inline water filtration plants. Double valves provide necessary DPH system separation for FRWP operation.	~\$3,000,000

Standard Abbreviations: PZ = Pressure Zone, WTP = Water Treatment Plant, PP = Pumping Plant, DPH = Dept. of Public Health, FRWP = Freeport Regional Water Project, TAF = Thousand Acre Feet, Mok Aq = Mokelumne Aqueduct, LF = Linear Feet, LCV = Level Control Valve, CCWD = Contra Costa Water District, EBMUD = East Bay Municipal Utility District

Table 4. CCWD-EBMUD Raw Water Intertie Improvements – Option 4 (275 TAF LVE)

IMPROVEMENT	LOCATION	REASON	ESTIMATED COST
<u>FSCC Treatment Facility</u> <ul style="list-style-type: none"> • Coagulation/Flocculation • Sedimentation • Chemical feed 	Camanche RWPP	Enables FRWP water to be treated at the inline water treatment plants and frees more capacity in Mok Aq No. 2 for delivery of water from CCWD	~\$120,000,000
<u>Check Valve (Same as Option 3)</u> <ul style="list-style-type: none"> • Replace/retrofit one or two existing 60-inch check valves to have manual close functionality. 	Walnut Creek East Portal	DPH double valve separation requirement to isolate non-Pardee water from the inline filtration water treatment plants	~\$1,00,000
<u>Mokelumne Aqueduct No. 1 and 3 Interconnection (Same as Option 3)</u> <ul style="list-style-type: none"> • Interconnection with two 54-inch butterfly valves connect Mok Aq No. 1 and 3 	Walnut Creek East Portal	Mok Aq interconnections are currently proposed at Stockton and Bixler. Flow is constricted between Bixler and Walnut Creek. New interconnection at Walnut Creek East Portal improves capacity through the Mok Aq No. 1 and 3 to the inline water filtration plants. Double valves provide necessary DPH system separation for FRWP operation.	~\$3,000,000

Standard Abbreviations: PZ = Pressure Zone, WTP = Water Treatment Plant, PP = Pumping Plant, DPH = Dept. of Public Health, FRWP = Freeport Regional Water Project, TAF = Thousand Acre Feet, Mok Aq = Mokelumne Aqueduct, LF = Linear Feet, LCV = Level Control Valve, CCWD = Contra Costa Water District, EBMUD = East Bay Municipal Utility District

APPENDIX C:
Contra Costa Water District Los Vaqueros Reservoir Expansion Project EIS/EIR
Impact and Mitigation Measures Summary Table

This appendix presents a table summarizing the impacts and mitigation measures identified in the 2009 Los Vaqueros Reservoir Expansion EIS/EIR prepared by Contra Costa Water District (CCWD). A number of the permit terms described in this table have been superseded by the project-specific permit terms for the Current Expansion (160 thousand acre-feet) that were determined in consultation with the regulatory agencies. For example, mitigation ratios were revised and in some cases mitigation measures have been replaced with specific permit requirements. Please contact CCWD for further information regarding the permit conditions for the Current Expansion.

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
Section 4.3: Delta Fisheries and Aquatic Resources			
<p>4.3.1: In-channel construction activities associated with the proposed new Delta Intake structure would increase short-term localized suspended sediment, turbidity, and possibly contaminant concentrations within Old River, which would increase exposure of various life stages and species of fish to temporarily degraded water quality conditions.</p>	<p>Implementation of Hazardous Materials Mitigation Measure 4.13.2: This mitigation measure involves implementation of best management practices to keep hazardous materials from accidental release. See Section 4.13 for description of this measure.</p> <p>Implementation of Hydrology Mitigation Measure 4.5.1a: This mitigation measure involves implementation of a storm water pollution prevention plan. See Section 4.5 for description of this measure.</p> <p>Measure 4.3.1: To minimize sediment, turbidity, and contaminants in Old River during construction of the new Delta Intake (primarily excavation and cofferdam installation), CCWD or its contractors will obtain and comply with RWQCB Section 401 water quality certification, CDFG streambed alteration agreement, USACE Clean Water Act Section 404 permit, as needed, and adhere to the following requirements:</p> <ul style="list-style-type: none"> • Monitor periods of construction activity and coordinate with the contractor to identify periods when localized increases in turbidity may occur. • Install a silt curtain to reduce the dissipation of suspended sediments during dredging and cofferdam installation. • Ensure that cofferdam(s) installation occurs during the designated construction window of August 1 through November 30 to avoid the potential risk of adverse impacts on chinook salmon, steelhead, delta smelt, and other aquatic species which are more abundant in the area during fall, winter, and spring. This construction window may be shifted through consultation with USFWS, NMFS, and CDFG if the best available fish survey data indicate that a different construction window for cofferdam installation will avoid or minimize effects on special-status species. • Minimize substrate disturbance during construction activities. • Ensure project construction activities will not cause significant turbidity increases in surface waters, as follows: <ul style="list-style-type: none"> - Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTU), increases will not exceed 1 NTU. 	<p>Future Expansion</p>	<p>Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<ul style="list-style-type: none"> - Where natural turbidity is between 5 and 50 NTU, increases will not exceed 20 percent. - Where natural turbidity is between 50 and 100 NTU, increase will not exceed 10 NTU. - Where natural turbidity is greater than 100 NTU, increases will not exceed 10 percent. • These limits will be eased during in-water working periods to allow a turbidity increase of 15 NTU over background turbidity as measured in surface waters 300 feet downstream from the working area. In determining compliance with the above limits, appropriate averaging periods may be applied, provided that Delta fisheries and aquatic resources would be fully protected. • Ensure project construction activities will not cause settleable matter to exceed 0.1 milliliters per liter in surface waters, as measured in surface waters 300 feet downstream from the project. • In the event that project construction activities create a visible plume in surface waters, initiate monitoring of turbidity levels at the discharge site and 300 feet downstream, taking grab samples for analysis of NTU levels twice per day during the work period while the visible plume persists. • Notify the RWQCB, CDFG, USFWS, and NMFS if the above criteria for turbidity are exceeded. • Notify the RWQCB, CDFG, USFWS, and NMFS of any spill of petroleum products, oil/grease, or other organic or earthen materials. • If the required permits from RWQCB, CDFG, USFWS or NMFS include conditions equivalent to any mitigation measure set forth above, substitute the permit condition for the equivalent mitigation measure. 		
<p>4.3.2: Underwater sound-pressure levels generated during cofferdam installation for the new Delta Intake could result in behavioral avoidance or migration delays for special-status fish species.</p>	<p>Measure 4.3.2: As discussed in Mitigation Measure 4.3.1, construction of the cofferdam for the new Delta Intake will be limited to the seasonal period between August 1 and November 30. This measure will also help avoid potential impacts to special-status fish species due to underwater sound pressure levels generated during coffer dam installation. To further reduce and avoid impacts to resident fish present in the south Delta in the immediate vicinity, the cofferdam would be installed using a vibration hammer that minimizes underwater sound pressure levels. If it is determined that a higher intensity percussion hammer would be required for installing the cofferdam, underwater sound pressure level monitoring would be performed by an acoustic expert to document sound pressure levels during cofferdam construction. Limiting construction related underwater sound pressure levels during cofferdam installation to less than 160 dB would reduce potential fishery impacts to a less-than-significant level. If monitoring indicates higher sound pressure levels than 160 dB, inwater construction activity would be suspended and avoidance of potential adverse effects would be achieved by consulting with USFWS,</p>	<p>Future Expansion</p>	<p>Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>NMFS, and CDFG to determine and implement the appropriate actions, which would include one or more of the following:</p> <ul style="list-style-type: none"> • Surveying Old River at the intake site to determine fish presence before installation, and modifying the work window accordingly; • Use of an air bubble curtain to deflect and absorb sound pressure; • Use of lower intensity underwater sounds to repel fish from the immediate construction area before use of a high-pressure hammer; • Limiting the duration and frequency of high-pressure underwater sound levels during cofferdam installation. 		
<p>4.3.3: Dewatering of the cofferdam for the new Delta Intake could result in stranding of fish.</p>	<p>Measure 4.3.3: As discussed in Mitigation Measure 4.3.1, construction of the cofferdam for the new Delta Intake will be limited to the seasonal period between August 1 and November 30. This measure will also help avoid potential impacts to special-status fish species due to coffer dam dewatering. Additionally, CCWD will implement a fish rescue plan acceptable to CDFG, USFWS, and NMFS. CCWD shall ensure that a qualified fishery biologist designs and conducts the fish rescue and relocation effort to collect fish (all species) from the area behind the cofferdam. The fish rescue would be implemented during the dewatering of the area behind the cofferdam for the new Delta Intake and would involve capturing and relocating the fish to suitable habitat within Old River. To ensure compliance, a fisheries biologist shall be present onsite during initial dewatering activities. CCWD shall monitor progress of installation of the cofferdam and the schedule for dewatering. CCWD shall coordinate the dewatering schedule with the construction contractor and fishery biologist to allow for the fish rescue to occur before completely closing the cofferdam, and again during dewatering when water is about 2 feet deep at the shallowest point within the cofferdam. USFWS, NMFS, and CDFG shall be notified at least 48 hours before the fish rescue. Information on the species and sizes of fish collected in the rescue and estimates of survival just before release would be recorded during the time of the fish rescue and provided in a letter report to be submitted within 30 days after the fish rescue to USFWS, NMFS, and CDFG.</p>	<p>Future Expansion</p>	<p>Less than significant</p>
<p>4.3.4: The new Delta Intake structure and associated fish screens in Old River would physically exclude fish from a small area of existing aquatic habitat and modify existing aquatic habitat.</p>	<p>Implementation of Biological Resources Mitigation Measure 4.6.2b: This mitigation measure provides for compensatory mitigation for the permanent impacts to habitat. See Section 4.6 for description of this measure.</p>	<p>Future Expansion</p>	<p>Less than significant</p>
<p>4.3.9: The project, when combined with other planned project alternatives, or projects under construction in the area, could cumulatively contribute to substantial adverse impacts to Delta fisheries and aquatic resources.</p>	<p>Mitigation for Cumulative Impacts: Implementation of Delta Fisheries and Aquatic Resources Mitigation Measures (Measures 4.3.1, 4.3.2 and 4.3.3), together with Hazardous Materials Mitigation Measure 4.13.2, Hydrology Mitigation Measure 4.5-1a and Biological Resources Mitigation Measure 4.6.2b, will reduce potential impacts to less-than-significant levels. No additional measures will be required.</p>	<p>Future Expansion</p>	<p>Less than significant</p>
<p>Section 4.4: Geology, Soils and Seismicity</p>			
<p>4.4.2: During construction and operations, the</p>	<p>Implementation of Hydrology Mitigation Measures (Measures 4.5.1a</p>	<p>Current Expansion</p>	<p>Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
project could result in substantial soil erosion or the loss of topsoil.	and 4.5.1b) and Biological Resources Mitigation Measures (Measures 4.6.2a and 4.6.2b) would reduce potential impacts of soil erosion and topsoil loss to a less-than-significant level. No additional measures would be required.	Future Expansion	Less than significant
Section 4.5: Local Hydrology, Drainage and Water Quality			
<p>4.5.1: During construction, the project alternatives could violate water quality standards through increased erosion and sedimentation to local waterways, release of fuels or other hazardous materials during construction, or dewatering of excavated areas that could result in substantial water quality degradation.</p>	<p>Measure 4.5.1a: CCWD shall ensure that a Storm Water Pollution Prevention Plan (SWPPP) is prepared in accordance with the requirements of the RWQCB's NPDES General Construction Permit requirements. The SWPPP will be designed to identify and control pollutant sources that could affect the quality of stormwater discharges from the construction sites through the development of best management practices (BMPs). BMPs will include those that effectively target pollutants in stormwater discharges to prevent or minimize the introduction of contaminants into surface waters. To protect receiving water quality, the BMPs will include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Temporary erosion control measures (fiber rolls, staked straw bales, detention basins, check dams, geofabric, sandbag dikes, or temporary revegetation or other ground cover) will be employed for disturbed areas. • No disturbed surfaces will be left without erosion control measures in place during the winter and spring months. • Sediment will be retained onsite by a system of sediment basins, traps, or other appropriate measures. • The construction contractor will prepare standard operating procedures for the handling of hazardous materials on the construction site to prevent discharge of materials to stream or storm drains. This will include the contractor establishing specific fueling areas for construction vehicles and equipment located at least 200 feet from drainages. Grading areas must be clearly marked and equipment and vehicles must remain within graded areas. The contractor will also identify and implement as appropriate specific procedures for handling and containment of hazardous materials, including catch basins and absorbent pads. • Wherever construction work is performed near a creek, reservoir, or drainage area (excluding work that is permitted for working in the drainage itself), a 100 foot vegetative or engineered buffer will be maintained between the construction zone and surface water body. Specific water bodies to be protected through implementation of this BMP include but are not limited to: Los Vaqueros Reservoir, Kellogg and Brushy Creeks, Bethany Reservoir, the South Bay Aqueduct, and/or other seasonal drainages. • Native and annual grasses or other vegetative cover will be established on construction sites immediately upon completion of work causing disturbance. 	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>Measure 4.5.1b: If groundwater cannot be contained onsite during construction, the construction contractor(s) will ensure that the water is pumped into multiple Baker tanks or approved equivalent with either a filter or gel coagulant system or other containment to remove sediment. The remaining water will then be discharged to a designated receiving water body or via land application in accordance with the requirements of RWQCB Order No. 5-00-175. On upland areas, sprinkler systems may be used to disperse the water in support of revegetation efforts. BMPs, as described in the SWPPP, will also be implemented to retain, treat, and dispose of groundwater. Measures will include but are not limited to:</p> <ul style="list-style-type: none"> • Retaining pumped groundwater in surface facilities to reduce turbidity and suspended sediment concentrations; • Treating (i.e., flocculating) pumped groundwater to reduce turbidity and concentrations of suspended sediments if turbidity exceeds RWQCB effluent limitations as defined in General Order 5-00-175; • Directly conveying pumped groundwater to a suitable land disposal area capable of percolating flows; • If contamination is suspected, water collected during dewatering will be tested for contamination prior to disposal; • Discharges will comply with the RWQCB's requirements. 		
<p>4.5.4: Project alternatives would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff during operation.</p>	<p>Measure 4.5.2: CCWD shall design facilities with introduced impervious surfaces with stormwater control measures that are consistent with the Regional Water Quality Control Board's NPDES municipal stormwater runoff requirements. The stormwater control measures shall be designed and implemented to reduce the discharge of stormwater pollutants to the maximum extent practical. Stormwater controls such as bioretention facilities, flow-through planters, detention basins, vegetative swales, covering pollutant sources, oil/water separators, retention ponds, shall be designed to control stormwater quality to the maximum extent practical. In addition, CCWD shall prepare and implement a Stormwater Facility Operation and Management Plan that assigns responsibility for maintenance of stormwater facilities for the life of the project.</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>
<p>Section 4.6: Biological Resources</p>			
<p>4.6.1: Project construction would affect the following NCCP habitat types (CDFG sensitive plant communities in parentheses): Natural Seasonal Wetland (i.e., bulrushcattail series, northern claypan vernal pool, bush seepweed and saltgrass series), Valley/Foothill Riparian (i.e., Fremont cottonwood series and valley oak series), Grassland (i.e., purple needlegrass series) and Valley/Foothill Woodland Forest (i.e., blue oak series).</p>	<p>The distribution and extent of sensitive plant communities has been mapped and documented for all project facilities, both within and outside the watershed. Mitigation Measures 4.6.1a and 4.6.1b include sensitive resource avoidance, impact minimization, restoration of temporarily disturbed sensitive plant communities, and compensation for permanent, unavoidable losses through restoration, enhancement, creation, and preservation; implementation of these measures would reduce the impacts on sensitive plant communities from construction of all facilities to a less-than-significant level. Compensation measures presented in this section have been integrated into a comprehensive biological resources mitigation and compensation program, which is presented in Section 4.6.3.</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>Measure 4.6.1a: Based on the documented distribution of sensitive plant communities, CCWD shall implement avoidance and minimization measures to minimize impacts on sensitive plant communities during project construction. To the extent feasible, project design shall minimize impacts on sensitive plant communities. Exclusion and/or silt fencing shall be installed to buffer avoided areas. Natural Seasonal Wetland habitat (bush seepweed) shall be avoided within the Western substation study area by siting facilities to avoid to this plant community.</p> <p>Measure 4.6.1b: Where avoidance of sensitive plant communities is not possible, CCWD shall provide compensation through habitat creation, enhancement, and preservation, both within and outside the watershed, for temporary and permanent impacts on the following sensitive plant communities that will be affected by the project: <i>Natural Seasonal Wetland (Bulrush-cattail Series, Northern Claypan Vernal Pool, Bush Seepweed, and Saltgrass Series)</i></p> <ul style="list-style-type: none"> • CCWD shall implement Mitigation Measure 4.6.2, presented below, to minimize, and compensate for impacts to sensitive plant communities associated with jurisdictional wetlands and other waters of the United States. <p><i>Valley Oak, Blue Oak Woodlands, and Fremont Cottonwood Series</i></p> <ul style="list-style-type: none"> • CCWD shall develop an oak woodland mitigation and monitoring plan to outline mitigation and monitoring obligations for impacts resulting from increased reservoir levels and construction activities. This plan shall include restoration, enhancement, and/or preservation sites; thresholds of success; monitoring and reporting requirements; sitespecific designs for site restoration/enhancement activities; and longterm maintenance activities as set forth in the following bullets. • Under the oak woodland mitigation and monitoring plan, CCWD shall acquire or dedicate land suitable for blue oak woodland and riparian woodland (valley oak and Fremont cottonwood series) restoration, enhancement, and preservation. If restoration is feasible, then a ratio of at least 2:1 shall be used. If preservation (with enhancement) is used, at least a 3:1 ratio shall be implemented to offset losses. • Due to the limited availability of suitable mitigation lands in the watershed, CCWD shall purchase blue oak mitigation lands outside of the watershed. • CCWD shall coordinate acquisition of woodland mitigation lands with USFWS to minimize potential conflicts with regional San Joaquin kit fox planning efforts, which seek to maintain open grasslands movement corridors. • CCWD shall submit the mitigation and monitoring plan to the appropriate regulatory agencies for approval. <p><i>Purple Needlegrass Grasslands</i></p> <ul style="list-style-type: none"> • CCWD shall seed disturbed areas within this habitat area with native 		

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>grass seed collected within or in the vicinity of impacts. Additional seed could be used to supplement seed mixes, but seed shall be from locally collected (within the ecoregion) source material and shall be appropriately selected for site conditions.</p> <ul style="list-style-type: none"> • Consistent with MSCS guidance (CALFED, 2000) and coordination with CDFG and USFWS, mitigation for loss of this plant community shall be provided by preservation and enhancement of mitigation lands at a minimum of a 2:1 mitigation ratio to compensate for permanent losses. • CCWD shall develop and implement a native grassland restoration and enhancement plan to identify potential seed collection sites, quantities of seed required, potential enhancement areas within the Los Vaqueros Watershed, potential enhancement activities, and other measures required to maintain the sustainability of native grassland restoration and enhancement areas. 		
<p>4.6.2: Project construction could affect potentially jurisdictional wetlands or waters, and streambeds and banks regulated by CDFG.</p>	<p>Measure 4.6.2a: Final project design shall avoid and minimize the fill of wetlands and other waters to the greatest practicable extent. Areas that are avoided shall be subject to best management practices under the General National Pollutant Discharge Elimination System Permit, as described in Measure 4.5.1. The fill of wetlands at the proposed Western substation site shall be avoided by siting facilities within the study area so as to avoid impacts to such areas.</p> <p>Measure 4.6.2b: Where jurisdictional wetlands and other waters cannot be avoided, to offset temporary and permanent impacts that would occur as a result of the project, restoration and compensatory mitigation shall be provided through the following mechanisms:</p> <ol style="list-style-type: none"> 1. Purchase or dedication of land to provide wetland preservation, restoration or creation. If restoration is available and feasible, then a ratio of at least 2:1 shall be used. If a wetland needs to be created, at least a 3:1 ratio shall be implemented to offset losses. Where practical and feasible, onsite mitigation shall be implemented. 2. A wetland mitigation and monitoring plan shall be developed by a qualified biologist in coordination with CDFG, USFWS, USACE, and/or RWQCB that details mitigation and monitoring obligations for temporary and permanent impacts to wetlands and other waters as a result of construction activities. The plan shall quantify the total acreage lost, describe mitigation ratios for lost habitat, annual success criteria, mitigation sites, monitoring and reporting requirements, and site specific plans to compensate for wetland losses resulting from the project. 3. The mitigation and monitoring plan shall be submitted to the appropriate regulatory agencies for approval. 	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>
<p>4.6.4: Project construction would result in impacts on California red-legged frog and California tiger salamander, including aquatic</p>	<p>The implementation of Measure 4.6.4a, which includes measures to avoid and minimize take of individual frogs and salamanders, and Measure 4.6.4b, which provides for habitat compensation and enhancement, would</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
<p>breeding habitat and upland aestivation habitat for these species.</p>	<p>reduce the impacts on California red-legged frogs and California tiger salamanders to a less-than-significant level.</p> <p>Measure 4.6.4a: CCWD shall implement measures to minimize and avoid take of California red-legged frogs and California tiger salamanders. Before and during construction, the following actions shall minimize impacts on these species:</p> <ul style="list-style-type: none"> • CCWD shall submit the name and credentials of a biologist qualified to act as construction monitor to USFWS for approval at least 15 days before construction work begins. General minimum qualifications are a 4-year degree in biological sciences or other appropriate training and/or experience in surveying, identifying, and handling California tiger salamanders and California red-legged frogs. • A USFWS-approved biologist shall survey the work sites 2 weeks before the onset of construction. If California tiger salamanders or California red-legged frogs (or their tadpoles or eggs) are found, the approved biologist shall contact USFWS to determine whether moving any of these life-stages is appropriate. If USFWS approves moving the animals, the approved biologist shall be allowed sufficient time to move frogs and/or salamanders from the work sites before work begins. If these species are not identified, construction can proceed at these sites. The approved biologist shall use professional judgment to determine whether (and if so, when) the California tiger salamanders and/or California red-legged frogs are to be moved. The USFWS-approved biologist shall immediately inform the construction manager that work should be halted, if necessary, to avert avoidable take of listed species. • Areas will be monitored during construction to identify, capture, and relocate sensitive amphibians, if present. • A detailed California red-legged frog/California tiger salamander relocation plan will be prepared at least 3 weeks before the start of groundbreaking, and submitted to USFWS for review. The purpose of the plan is to standardize amphibian relocation methods and relocation sites. • A USFWS-approved biologist shall be present at the active work sites until California red-legged frogs and California tiger salamanders have been removed, and habitat disturbance has been completed. Thereafter, the contractor or CCWD shall designate a person to monitor onsite compliance with all minimization measures. A USFWS-approved biologist shall ensure that this individual receives training consistent with USFWS requirements. • CCWD and its contractors shall initiate all work within potential California red-legged frog aquatic breeding habitat between May 1 and November 1 (i.e., generally identified as the nonbreeding season). Project construction timing constraints are summarized in 		

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>Section 4.6.3.</p> <ul style="list-style-type: none"> • CCWD and its contractors shall install frog-exclusion fencing (i.e., silt fences) around all construction areas that are within 100 feet of potential California red-legged frog or California tiger salamander aquatic breeding habitat. • A USFWS-approved biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of the California red-legged frog and California tiger salamander and their habitat, the importance of these species and their habitat, the general measures that are being implemented to conserve the red-legged frog and tiger salamander as they relate to the project, and the boundaries within which the project construction shall occur. • During work activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. After construction, the contractor shall remove all trash and construction debris from work areas on a daily basis. • All fueling and maintenance of vehicles and other equipment and staging areas will occur at least 20 meters (65.6 feet) from any riparian habitat or water body. • Before the onset of work, CCWD shall prepare a stormwater pollution prevention plan and water pollution control plan as described in Measures 4.5.1a and 4.5.1b to allow prompt and effective response to any accidental spills. • Before construction begins, CCWD shall prepare a plan describing preproject conditions, restoration, and monitoring success criteria. CCWD • or its contractors shall restore the contours and revegetate all areas disturbed by the project with an appropriate assemblage of native vegetation suitable to the area. • Where needed to maintain California red-legged frog and/or California tiger salamander breeding in existing mitigation wetlands that are presently supplemented with water, but are not directly disrupted by construction, CCWD shall continue to provide supplemental water to these ponds during and after construction according to the existing terms and conditions for these mitigation sites. <p>Measure 4.6.4b: CCWD shall provide compensation for permanent and temporary impacts on California tiger salamander and California red-legged frog aquatic habitat. In accordance with MSCS (CALFED, 2000) objectives, CCWD shall provide compensation for the permanent loss of California redlegged frog and California tiger salamander aquatic habitat at a minimum of a 3:1 ratio. The MSCS does not require compensation for loss of California red-legged frog and California tiger salamander</p>		

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>aestivation habitat. To satisfy compensation guidelines, CCWD shall implement the following measures:</p> <ul style="list-style-type: none"> • CCWD shall mitigate for the loss of aquatic breeding sites that will be filled or otherwise directly affected by the project (estimated to be 16 sites at this time; number to be confirmed by pre-construction surveys) as well as mitigate for impacts on associated California red-legged frog upland habitat by providing compensatory habitat. • CCWD shall develop and implement a mitigation, monitoring, and management plan, with input from regulatory agencies that shall outline long-term management strategies and performance standards to be attained to compensate for habitat losses resulting from the project. At a minimum, the plan shall include standards for mitigation site selection and construction specifications for mitigation sites, a description of site conditions including aerial maps, an analysis of local amphibian habitat (e.g., is another breeding habitat nearby?), and performance criteria by which site quality can be assessed over time (see below). A monitoring program shall be established to track the development of habitat conditions that are conducive to the establishment of the California redlegged frog and/or California tiger salamander breeding populations. Long-term monitoring (e.g., night surveys and aquatic dipnet surveys) shall be performed on an annual basis to determine if these species are present. The plan shall provide that monitoring be performed to ensure that mitigation ponds that are dependent upon artificial water function as designed. • Performance criteria shall be used to assess the success of aquatic habitat created for California red-legged frogs and California tiger salamander aquatic habitat. These criteria shall be outlined in the mitigation, monitoring and management plan and shall include: <ul style="list-style-type: none"> - A description of the type of habitat to be created (e.g., permanent marsh consisting of open water and emergent vegetation; semipermanent marsh); - The total area, size and number of California red-legged frog and California tiger salamander mitigation ponds to be created based on a comparable loss of breeding sites (e.g., 1:1 replacement ratio) as a result of the project. These ponds shall concurrently satisfy wetland mitigation requirements identified in Measure 4.6.2b; - Constructed permanent marsh ponds that are designed to support California red-legged frog breeding shall provide: <ul style="list-style-type: none"> at least 75% absolute vegetation cover of wetland plant species within shallow water emergent vegetation zones; year-round inundation with depths of at least 1.5 feet in the vegetation zone and 4 feet in open water. - Constructed semipermanent marsh ponds that are designed to support California tiger salamander or California red-legged frog 		

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>breeding habitat shall provide: water regimes similar to affected features, with semi-permanent water ranging from depths of 1.5 to 2.5 feet or greater during a typical rainfall year and an inundation period that exceeds 120 consecutive days; a predominance of seasonal wetland plants (at least 75% absolute vegetation cover) during the winter/spring monitoring period (though may support upland species later in the year when pools dry).</p> <ul style="list-style-type: none"> • To the greatest practicable extent, CCWD or its contractors shall construct and manage compensation habitat (i.e., replacement ponds) for California red-legged frogs and California tiger salamanders prior to project implementation. A qualified biologist shall ensure that ponds are functioning before the removal and/or inundation of existing California tiger salamander and California red-legged frog aquatic breeding sites. • Construction within the Kellogg Creek corridor (i.e., creek crossing sites) shall be designed to impact the smallest area required to provide for the installation of pipelines, particularly in the area below Los Vaqueros Dam. • CCWD and its contractors shall restore and enhance Kellogg Creek and adjacent natural upland environs in the project area (about 4.0 linear miles) to restore suitable aquatic breeding habitat for California redlegged frogs and restore disturbed upland areas as close as possible to pre-project conditions. Methods of enhancement and restoration could include, but are not limited to, reducing erosion; installing breeding ponds; excluding cattle from sensitive areas; and managing, salvaging, and seeding with grasses, forbs, and other species that are native to the site, as well as other measures to increase water quality within the enhancement and restoration reach. <p>New mitigation ponds that are created for California red-legged frog and California tiger salamander shall be hydrologically self-sustaining and shall not require a supplemental water supply. Because few natural drainages in the Los Vaqueros Watershed could maintain self-sustaining mitigation ponds, a portion of the pond mitigation locations will likely be identified outside of the watershed.</p>		
<p>4.6.5: Project construction would result in direct and indirect impacts on existing populations of and habitat for the western pond turtle.</p>	<p>Measure 4.6.5: Before construction activities begin, a qualified biologist shall conduct western pond turtle surveys within creeks and in other ponded areas affected by the project. Upland areas shall also be examined for evidence of nests as well as individual turtles. The project biologist shall be responsible for the survey and for the relocation of turtles. Construction shall not proceed until a reasonable effort has been made to capture and relocate as many western pond turtles as possible to minimize take. However, some individuals may be undetected or enter sites after surveys, and would be subject to mortality. If a nest is observed,</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	a biologist with the appropriate permits and prior approval from CDFG shall move eggs to a suitable location or facility for incubation, and release hatchlings into the creek system the following autumn.		
<p>4.6.6: Project construction under Alternatives 1, 2, and 3 would result in direct and indirect impacts on listed vernal pool fairy shrimp and their habitat, and on the non-listed midvalley fairy shrimp and curvedfoot hygrotyus diving beetle.</p>	<p>Measure 4.6.6a: CCWD shall assume the presence of listed vernal pool branchiopods in all suitable habitat for which CCWD chooses not to perform protocol-level surveys. Preliminary branchiopod surveys (ESA, 2008a) have documented the general distribution of and habitat for vernal pool fairy shrimp in the project area. Longhorn fairy shrimp are not expected in the project areas based on this species' narrow habitat requirements, restricted range, and available habitat. CCWD shall minimize impacts on listed vernal pool branchiopods. To avoid and minimize direct and indirect impacts on listed vernal pool branchiopods, standard water quality protection measures shall be implemented as established in Mitigation Measure 4.5.1. Additional measures to minimize and avoid habitat for listed vernal pool branchiopods shall be implemented as required by USFWS and include:</p> <ul style="list-style-type: none"> • Avoidance of potential habitat by narrowing work corridors near potential vernal pool branchiopod habitat to the greatest extent practicable. • Establishment of 250-foot buffers around potential branchiopod habitat, which is a typical avoidance distance that is recommended by the USFWS to minimize and avoid direct and indirect impacts. For the Kellogg Creek vernal pool complex the following protection measures shall be implemented: • Land uses in the easternmost portion of the Los Vaqueros Watershed shall remain restricted to activities associated with wind energy generation, dry-land farming, grazing, and administration by CCWD. • East of Los Vaqueros Reservoir, public access shall be restricted from • CDFG conservation easement lands at the Kellogg Creek vernal pool complex and lands within 500 feet. Public access shall be restricted to research and occasional educational activities conducted under the supervision of CCWD staff or other designated land management agencies. • The eastside trail and other public access trails located in proximity to the vernal pool complex shall be 500 feet or farther from the CDFG conservation easement and beyond direct line of sight to rock outcrop features. • • The eastern boundary of the public access area shall be fenced to prevent human access to the vernal pool complex and this fence and the Kellogg Creek vernal pools area shall be patrolled to ensure that no trespassing happens and that the fence remains intact. 	Future Expansion	Less than significant
<p>4.6.7: Project construction would have temporary and permanent impacts on potential San Joaquin kit fox habitat and permanently</p>	<p>Measure 4.6.7a: CCWD shall implement San Joaquin kit fox protection measures. The following measures, which are intended to reduce direct and indirect project impacts on San Joaquin kit foxes, are derived from the</p>	Current Expansion Future Expansion .	Less than significant for habitat impacts except loss

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
<p>reduce potential regional movement opportunities in one location for this species.</p>	<p>San Joaquin Kit Fox Survey Protocol for the Northern Range (USFWS, 1999a) and the Standardized Recommendations for Protection of the San Joaquin Kit Fox (USFWS, 1999b). These measures shall be implemented for construction areas along pipeline corridors, staging areas, and facilities within the watershed:</p> <ul style="list-style-type: none"> • Preconstruction surveys shall be conducted within 200 feet of work areas to identify potential San Joaquin kit fox dens or other refugia in and surrounding workstations. A qualified biologist shall conduct the survey for potential kit fox dens 14 to 30 days before construction begins. All identified potential dens shall be monitored for evidence of kit fox use by placing an inert tracking medium at den entrances and monitoring for at least 3 consecutive nights. If no activity is detected at these den sites, they shall be closed following guidance established in USFWS Standardized Recommendations document. • If kit fox occupancy is determined at a given site, the construction manager should be immediately informed that work should be halted within 200 feet of the den and the USFWS contacted. Depending on the den type, reasonable and prudent measures to avoid effects to kit foxes could include seasonal limitations on project construction at the site (i.e., restricting the construction period to avoid spring-summer pupping season), and/or establishing a construction exclusion zone around the identified site, or resurveying the den a week later to determine species presence or absence. • To minimize the possibility of inadvertent kit fox mortality, project-related vehicles shall observe a maximum 20 miles per hour speed limit on private roads in kit fox habitat. Nighttime vehicle traffic shall be kept to a minimum on nonmaintained roads. Off-road traffic outside the designated project area shall be prohibited in areas of kit fox habitat. • To prevent accidental entrapment of kit fox or other animals during construction, all excavated holes or trenches greater than 2 feet deep shall be covered at the end of each work day by suitable materials, fenced, or escape routes constructed of earthen materials or wooden planks shall be provided. Before filling, such holes shall be thoroughly inspected for trapped animals. • All food-related trash items (such as wrappers, cans, bottles, and food scraps) shall be disposed of in closed containers and removed daily from the project area. • To prevent harassment and mortality of kit foxes or destruction of their dens, no pets shall be allowed in the project area. 		<p>of the potential movement corridor on the western side of the reservoir, which would remain a significant and unavoidable effect for the Current Expansion¹.</p>

¹ The significant and unavoidable impact for loss of potential movement corridor only applies to the Current Expansion. The impact to movement corridors on the west side of the reservoir has been mitigated as part of the Current Expansion. For the Future Expansion, mitigation would be required for additional acres inundated on the west side, but not for loss of function as a corridor.

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>Measure 4.6.7b: To compensate for impacts on San Joaquin kit fox habitat outside of dedicated CDFG conservation easements, CCWD shall provide mitigation either through acquiring and dedicating lands into conservation easements or purchasing mitigation credits at compensation ratios that have been approved by state and federal resource agencies. Consistent with MSCS and USFWS guidance, mitigation ratios applied for impacts on San Joaquin kit fox habitat shall be 1:1 to 1.1:1 for temporary impacts; 1:1 to 2:1 for long-term temporary impacts; and 1:1 to 3:1 for permanent impacts. CCWD shall acquire San Joaquin kit fox mitigation lands based on anticipated impacts to suitable habitat and mitigation ratios identified by the MSCS and USFWS (see Table 4.6-14). San Joaquin kit fox mitigation obligations may concurrently satisfy burrowing owl mitigation obligations identified in Mitigation Measure 4.6.8, below, if suitable habitat is present for both species in mitigation lands. The availability of mitigation lands to satisfy mitigation requirements for these species is discussed in the Comprehensive Biological Resources Mitigation and Compensation Program (Section 4.6.3).</p> <p>Measure 4.6.7c: CCWD shall replace any acreage of existing kit fox easement affected by the project with an equivalent amount of acreage within the watershed to maintain under conservation easement the full amount required for the original Los Vaqueros Reservoir Expansion Project. In addition, CCWD shall provide compensation for conservation easement acreage affected at a ratio of up to 3:1, including conservation easement lands that are isolated by the project (see Table 4.6-14). Compensation for temporary impacts to lands within conservation easements shall be provided at a ratio of 1:1 to 1.1:1.</p>		
<p>4.6.8: Project construction would result in temporary and permanent loss of habitat for burrowing owls.</p>	<p>The implementation of Mitigation Measure 4.6.8a, which requires preconstruction surveys and protection measures to avoid burrowing owls during the breeding season, and Measure 4.6.8b, which includes the establishment of mitigation lands for loss of habitat as required by regulatory permits, would reduce potential impacts on burrowing owls to a less-than-significant level.</p> <p>Measure 4.6.8a: CCWD shall implement the measures listed below for grassland habitats to reduce potential impacts to a less-than significant level and to avoid incidental take of burrowing owls. In advance of construction, CCWD shall follow the current CDFG burrowing owl survey guidance, presently the Burrowing Owl Consortium multi-phase approach to evaluate burrowing owl use. Measures shall apply to all construction activities near active nests or within potential burrowing owl nesting habitat, to avoid, minimize, or mitigate impacts on burrowing owls: <i>Breeding season surveys</i> shall be performed to determine the presence of burrowing owls for the purposes of inventory, monitoring, avoidance of</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>take, and determining appropriate mitigation. In California the breeding season begins as early as February 1 and continues through August 31. Under the Burrowing Owl Consortium's multi-phase survey methodology, for areas within 500 feet of construction boundaries, CCWD shall: 1) perform a habitat assessment to identify essential components of burrowing owl habitat, including artificial nest features; 2) perform intensive burrow surveys in areas that are identified to provide suitable burrowing owl habitat, and; 3) perform at least four appropriately-timed breeding season surveys (four survey visits spread evenly [roughly every 3 weeks] during the peak of the breeding season, from April 15 to July 15) to document habitat use.</p> <p><i>Pre-construction surveys</i> shall be used to assess the owl presence before site modification is scheduled to begin. Initial pre-construction surveys should be conducted outside of the owl breeding season (February 1– August 31), but as close as possible to the date that ground-disturbing activities will begin. Generally, initial pre-construction surveys should be conducted within 7 days, but no more than 30 days prior to ground-disturbing activities. Additional surveys may be required when the initial disturbance is followed by periods of inactivity or the development is phased spatially and/or temporally over the project area. Up to four or more survey visits performed on separate days may be required to assure with a high degree of certainty that site modification and grading will not take owls. The full extent of the pre-construction survey effort shall be described and mapped in detail (e.g., dates, time periods, area[s] covered, and methods employed) in a biological report that will provided for review to CDFG. In addition to the above survey requirements, the following measures shall be implemented to reduce project impacts to burrowing owls:</p> <ul style="list-style-type: none"> • Construction exclusion areas (e.g., orange exclusion fence or signage) shall be established around occupied burrows, where no disturbance shall be allowed. During the nonbreeding season (September 1 through January 31), the exclusion zone shall extend at least 160 feet around occupied burrows. During the breeding season (February 1 through August 31), exclusion areas shall extend 250 feet around occupied burrows (or farther if warranted to avoid nest abandonment). • If work or exclusion areas conflict with owl burrows, passive relocation of onsite owls could be implemented as an alternative, but only during the nonbreeding season and only with CDFG approval. The approach to owl relocation and burrow closure will vary depending on the number of occupied burrows. Passive relocation shall be accomplished by installing one-way doors on the entrances of burrows within 160 feet of the project area. The one-way doors shall be left in place for 48 hours to ensure the owls have left the burrow. The burrows shall then be excavated with a qualified biologist 		

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>present. Construction shall not proceed until the project area is deemed free of owls.</p> <ul style="list-style-type: none"> • Unoccupied burrows within the immediate construction area shall be excavated using hand tools, and then filled to prevent reoccupation. If any burrowing owls are discovered during the excavation, the excavation shall cease and the owl shall be allowed to escape. Excavation could be completed when the biological monitor confirms the burrow is empty. • Artificial nesting burrows will be provided as a temporary measure when natural burrows are lacking. To compensate for lost nest burrows, artificial burrows shall be provided outside the 160-foot buffer zone (CDFG, 1995). The alternate burrows shall be monitored daily for 7 days to confirm that the owls have moved in and acclimated to the new burrow. <p>Measure 4.6.8b: CCWD shall compensate for permanent habitat losses at a minimum 2:1 ratio (possibly concurrent with other mitigation commitments, such as those for San Joaquin kit fox, provided habitat is present for both species). Compensation could consist of purchasing and enhancing suitable habitat, converting it to a conservation easement, and conveying the easement to a managing agency or institution in perpetuity; participating in a resource agency-approved mitigation bank that provides offset mitigation credits for loss of burrowing owl habitat; or a combination of both. Burrowing owl mitigation areas shall support burrowing owl populations in similar or greater densities to those on impacted burrowing owl habitat.</p>		
<p>4.6.9: Project construction and operation activities would result in direct and indirect impacts on existing populations of and habitat for the golden eagle, bald eagle, and Swainson's hawk.</p>	<p>Implementation of Mitigation Measures 4.6.9a (for all three species) and 4.6.9b (for golden eagle and Swainson's hawks) would reduce potential impacts associated with project construction to a less-than-significant level.</p> <p>Measure 4.6.9a: CCWD shall ensure that nesting golden eagles, bald eagles, and Swainson's hawks are protected. The following measures address potential impacts on nesting golden eagles and Swainson's hawks in the project vicinity. Measures that pertain to golden eagles and their nests would apply to nesting bald eagles, were they found in the Los Vaqueros Watershed prior to construction.</p> <ul style="list-style-type: none"> • Whenever feasible, construction near recently active nest sites shall start outside the active nesting season. The nesting period for golden eagles is between March 1 and August 15. Bald eagles and Swainson's hawks nest between March 15 and August 15. • If groundbreaking activities begin during the nesting period, a qualified biologist shall perform a preconstruction survey 14 to 30 days before the start of each new construction phase to search for golden eagle and Swainson's hawk nest sites within 0.5 mile of proposed activities. If active 	<p>Current Expansion Future Expansion</p>	<p>Less Than Significant/Beneficial Less Than Significant/Beneficial</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>nests are not identified, no further action is required and construction may proceed. If active nests are identified, the avoidance guidelines identified below shall be implemented.</p> <ul style="list-style-type: none"> • For golden eagles, construction contractors shall observe CDFG avoidance guidelines, which stipulate a minimum 500-foot buffer zone around active golden eagle nests. Buffer zones shall remain until young have fledged. For activities conducted with agency approval within this buffer zone, a qualified biologist shall monitor construction activities and the eagle nest(s) to monitor eagle reactions to activities. If activities are deemed to have a negative effect on nesting eagles, the biologist shall immediately inform the construction manager that work should be halted, and CDFG will be consulted. The resource agencies do not issue take authorization for this species. • If construction begins during the Swainson's hawk nesting period, a qualified biologist shall conduct preconstruction surveys at least 2 weeks prior to construction following CDFG guidance (e.g., CDFG, 2000) in areas that potentially provide nesting opportunities to verify species presence or absence. If the survey indicates presence of nesting Swainson's hawks within a 0.5-mile radius, the results shall be coordinated with CDFG to develop and implement suitable avoidance measures that include construction buffers and nest monitoring. • Consistent with the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California (CDFG, 1994), mitigation shall include the following approach: <ul style="list-style-type: none"> - No intensive new disturbances or other project-related activities that could cause nest abandonment or forced fledging shall be initiated within 0.25 mile (buffer zone) of an active nest between March 15 and September 15. - Nest trees shall not be removed unless no feasible avoidance exists. If a nest tree must be removed, CCWD shall obtain a management authorization (including conditions to offset the loss of the nest tree) from CDFG. The tree removal period specified in the management authorization is generally between October 1 and February 1. - Monitoring of the nest by a qualified biologist may be required if the project-related activity has the potential to adversely impact the nest. • CDFG often allows construction activities that are initiated outside the nesting season to continue without cessation even if raptors such as golden eagles choose to nest within 500 feet of work activities. Thus, work at the dam construction site may continue without delay if surveys verify the local absence of nesting golden eagles, or if groundbreaking begins outside the nesting period (August 16 through 		

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>February 28).</p> <ul style="list-style-type: none"> • After construction, CCWD shall survey for and monitor golden eagle and bald eagle nesting sites in the Los Vaqueros Watershed to ensure that recreational activity and other beneficial uses of the watershed do not disrupt eagle nest sites. Surveys will be performed at the beginning of the nesting season and continue through the nesting season. Consistent with present policy, recreational access and other disruptive activities will be suspended within 500 feet of active eagle nests until the young eagles have fledged. <p>Measure 4.6.9b: CCWD shall acquire and/or restore foraging habitat for Swainson’s hawks and golden eagles in accordance with CALFED and CDFG guidelines, set forth in Staff Report Regarding Mitigation for Impacts to Swainson’s Hawks in the Central Valley of California (CDFG, 1994), as follows:</p> <ul style="list-style-type: none"> • Compensate for permanent foraging habitat losses (e.g., agricultural lands and annual grasslands) within 1 mile of active Swainson’s hawk nests (acreage to be determined during preconstruction surveys) at a ratio of 1 acre of mitigation lands for each acre of permanent development (i.e., 1:1 replacement ratio). Foraging habitat impacts will be largely limited to valve structures (roughly 10-foot square) every few hundred feet along pipeline routes, with less than an acre of anticipated foraging habitat loss. • Consistent with MSCS guidance, impacts to golden eagle foraging habitat will be provided by enhancing or restoring foraging habitat at ratio from ratio of 1:1 to 5:1. 		
<p>4.6.10: Project construction and increased reservoir water levels would result in temporary and permanent loss of potential and occupied habitat for Alameda whipsnakes.</p>	<p>Measure 4.6.10a: CCWD shall minimize and/or avoid construction-related impacts on Alameda whipsnakes through the development and implementation of an Alameda whipsnake protection and monitoring plan. USFWS shall approve this plan during formal consultation under FESA Section 7, and shall establish a program of preconstruction surveys and construction supervision to identify and prevent potential hazards to individual Alameda whipsnakes that could be present during construction. The plan shall prohibit or restrict activities that could harm or harass this species. Habitat restoration and compensation shall also be included in the plan. Measures in this plan shall include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • A description of the species habitat requirements and movement patterns applicable to the project area. • A procedure for conducting preconstruction surveys and/or trapping surveys before the onset of initial ground-disturbing activities in areas with high quality habitat, as well as monitoring to be conducted before construction and/or restoration begin each day that these activities shall occur. 	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<ul style="list-style-type: none"> • Direct monitoring by a qualified biologist of the clearing of occupied or potentially occupied coastal scrub in the project area that would be directly affected by project construction (not by inundation). Construction shall not proceed until areas have been surveyed to capture and relocate as many Alameda whipsnakes as reasonably possible to minimize take. However, some individuals may be undetected or move in following surveys and would be subject to take. • A protocol for the selection of USFWS-approved biological monitors who have experience with Alameda whipsnakes to monitor construction activities (such as initial clearing and grading, excavation, and the installation of silt fencing) within and next to Alameda whipsnake habitat. • Worker education materials and procedures for informing construction crews about the potential presence of Alameda whipsnakes, equipment operation procedures to minimize impacts to whipsnakes, responsibilities of project personnel (such as reporting observations of Alameda whipsnakes within or next to the construction area to the biological monitor), observing speed limits, avoiding use of the haul road until cleared by the biological monitor, and other measures to avoid mortality of whipsnakes during construction; and the role of the monitoring staff in advising construction crews of compliance with takeavoidance measures for Alameda whipsnakes, documenting compliance in monitoring reports, and notifying USFWS within 24 hours of observation of whipsnakes within or next to a construction area. • Limit stockpiling and staging activities and vehicle and equipment refueling and maintenance to occur in nonsensitive areas. • CCWD shall prepare and implement a revegetation plan that describes pre-project conditions and available habitats for Alameda whipsnakes, invasive species control measures, and restoration and monitoring success criteria for undeveloped areas disturbed during project construction. The plan will provide the basis for the reestablishment of scrub habitat in disturbed areas and mitigation sites, and will include at a minimum an identification of mitigation areas, site preparation requirements, specifications for planting and/or seeding (e.g., what species and how many plantings), seasonal considerations for planting and site maintenance, the proposed irrigation strategy, performance criteria (e.g., 70 percent survival of plantings 5 years following installation, and 70 percent of plants exhibiting fair or better condition), any contingency measures that may be anticipated, and a provision for semi-annual monitoring and reporting. <p>Measure 4.6.10b: Consistent with MSCS guidelines, CCWD shall provide</p>		

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>compensation for permanent and temporary loss of upland scrub habitat that may support Alameda whipsnakes by either (1) compensating for permanent habitat losses by acquiring, protecting, and managing 2 to 5 acres of existing occupied habitat for every acre within the same area of occupied habitat that would be affected, and/or (2) enhancing or restoring 2 to 5 acres of suitable habitat near the affected areas for every acre of occupied habitat affected (CALFED, 2000).</p>		
<p>4.6.11: Project construction activities could result in direct and indirect impacts on the valley elderberry longhorn beetle and its habitat.</p>	<p>The following measure is based on the Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS, 1999c).</p> <p>Measure 4.6.11: CCWD shall implement USFWS guidelines (1999 or more current) for avoiding, minimizing, and mitigating project impacts on valley elderberry longhorn beetles. If avoidance is not feasible, USFWS general compensation guidelines call for replacement of elderberry plants in designated mitigation areas at a ratio from 2:1 to 5:1 for each stem greater than 1 inch in diameter. Note that replacement ratios are by stem and not by elderberry shrub. Replacement stock shall be obtained from local sources. Plants are generally replaced at a 2:1 ratio for stems greater than 1 inch in diameter at ground level with no adult emergence holes, 3:1 for stems where emergence holes are evident in less than 50 percent of the shrubs, and 5:1 for stems greater than 1 inch in diameter with emergence holes.</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>
<p>4.6.12: Project construction activities could affect active breeding bird nest sites and new powerlines could affect migratory birds.</p>	<p>Measure 4.6.12a: CCWD shall ensure that active nests of raptors and other special-status nesting birds are not disturbed during construction. If active construction work (i.e., ground clearing and grading, including removal of trees or shrubs) is scheduled to take place during the nonbreeding season (September 1 through January 31), no mitigation is required. If such construction activities are scheduled during the breeding season (February 1 through August 31), the following measures shall be implemented to avoid impacts on nesting raptors and other protected birds:</p> <ul style="list-style-type: none"> • Within 30 days of construction, a qualified wildlife biologist shall conduct preconstruction surveys of all potential nesting habitat within 500 feet of construction sites where access is available. • If active nests are found during preconstruction surveys, a nodisturbance buffer (acceptable in size to CDFG) shall be created around active raptor nests and nests of other special-status birds during the breeding season, or until it is determined that all young have fledged. Typical buffers include 500 feet for raptors and 250 feet for other nesting birds (e.g., shorebirds, waterfowl, and passerine birds). The size of these buffer zones and types of construction activities restricted in these areas could be further modified during construction in coordination with CDFG and shall be based on existing noise and human disturbance levels in the project area. • If preconstruction surveys indicate that nests are inactive or potential 	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>habitat is unoccupied during the construction period, no further mitigation shall be required. Trees and shrubs within the construction footprint determined to be unoccupied by special-status birds, or that are outside the no-disturbance buffer for active nests, could be removed.</p> <ul style="list-style-type: none"> • If construction commences during the nonbreeding season and continues into the breeding season, most songbirds that choose to nest next to active construction sites are generally considered to acclimate to construction activities, though nest abandonment may occur in some instances. However, nesting site monitoring shall be conducted by CCWD and no-disturbance buffer zones established in coordination with CDFG around active nests to prevent impacts on nesting birds and their young. <p>Measure 4.6.12b: CCWD shall follow Avian Protection Plan guidelines for powerlines. CCWD shall use state-of-the-art guidelines to reduce raptor mortality from interactions with powerlines. The Avian Power Line Interaction Committee (1994) and USFWS recommend the following:</p> <ul style="list-style-type: none"> • Provide 60-inch minimum horizontal separation between energized conductors or energized conductors and grounded hardware, • Insulate hardware or conductors against simultaneous contact if adequate spacing is not possible, • Use Western-approved poles that minimize impacts to birds, and, • Increase the visibility of conductors or shield wires to prevent and minimize bird collisions. <p>Measure 4.6.12c: Measures to reduce noise and vibration impact on nesting raptors near the dam and 275-TAF borrow area. As identified in Measure 4.6.12a, a qualified biologist will conduct preconstruction surveys and establish suitable avoidance buffers around active bird nests. Construction at the 275-TAF borrow area will begin either outside the active nesting season or after verification that breeding birds are absent within 500 feet of work areas. If it appears that noise or vibration from ongoing blasting or jack-hammering at the dam or 275-TAF borrow area could affect nesting raptors that arrive after the start of construction, specific measures shall be implemented to reduce noise levels. During blasting or jack-hammering, a noise level of no greater than 85 decibels (measured at the nest) will be used as general guidance for raptor nests that are established after construction. This parameter may be met through a variety of standard noise-reducing procedures for construction equipment, including the use of noise dissipaters and blasting mats. Contract specifications will include requirements for the use of blasting methods, including qualifications for the blasting contractor, the use of noise control methods and threshold noise levels, and other limitations. The specifications will also require the submittal of a blasting plan by the</p>		

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	contractor that will cover the proposed noise control techniques, blasting charge size and limits, and hours of blasting.		
<p>4.6.13: Project construction activities under Alternatives 1 and 2 could affect designated critical habitat for listed species (vernal pool fairy shrimp and Contra Costa goldfields).</p>	<p>See Measures 4.6.2a, 4.6.2b, 4.6.6a and 4.6.6b.</p>	Future Expansion	Less than significant
<p>4.6.14: Project construction activities could affect nonlisted special-status reptile species (San Joaquin coachwhip and coast horned lizard).</p>	<p>Measure 4.6.14: CCWD shall ensure that habitat disturbances are minimized in areas that are known or suspected to support San Joaquin coachwhip and coast horned lizard. Within 30 days before surface-disturbing activities, concurrent with other preconstruction wildlife surveys, a qualified biologist shall survey for special-status reptile populations. If individuals of these species are found in the project area, they shall be relocated to suitable habitat 0.5 mile or farther from the project area. Some individuals may be undetected or enter sites after surveys and would be subject to harm.</p>	Current Expansion Future Expansion	Less than significant Less than significant
<p>4.6.15: Project construction activities could affect nonlisted special-status mammal species (American badger, special-status bats, and San Joaquin pocket mouse).</p>	<p>Measure 4.6.15a: CCWD shall minimize impacts on badgers through a combination of worker training, preconstruction surveys, and passively or actively relocating animals. Impacts on the San Joaquin pocket mouse and American badger would be reduced by limiting the footprint of direct project effects within the Western alignment.</p> <ul style="list-style-type: none"> • A qualified biologist shall conduct a training session for all construction personnel focused on the protection and conservation of protected, nonlisted special-status wildlife species, including American badgers. At a minimum, the training shall include a species and habitat description for the American badger (in addition to other nonlisted special-status species). The training session shall identify the general measures that are being implemented to minimize impacts on these species as they relate to the project, and the boundaries within which the project could be accomplished. • Concurrent with other required surveys (e.g., as required for Mitigation Measure 4.7), during winter/spring months before new project activities, and concurrent with other preconstruction surveys (e.g., kit fox and burrowing owl), a qualified biologist shall perform a pre-activity survey to identify the presence of American badgers. If this species is not found, no further mitigation shall be required. If badgers are identified, they shall be passively relocated using burrow exclusion (e.g., installing one-way doors on burrows) or similar CDFG-approved exclusion methods. In unique situations it might be necessary to actively relocate badgers (e.g., using live traps) to protect individuals from potentially harmful situations. Such relocation could be performed with advance CDFG coordination and concurrence. When unoccupied dens are encountered outside of work areas but within 100 feet of proposed activities, vacated dens shall be inspected to ensure they are empty and temporarily covered using plywood sheets or similar materials. 	Current Expansion Future Expansion	Less than significant Less than significant

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<ul style="list-style-type: none"> • If badger occupancy is determined at a given site within the work area, the construction manager should be informed that work should be halted. Depending on the den type, reasonable and prudent measures to avoid harming badgers will be implemented and may include seasonal limitations on project construction near the site (i.e., restricting the construction period to avoid spring-summer pupping season), and/or establishing a construction exclusion zone around the identified site, or resurveying the den a week later to determine species presence or absence. • To minimize the possibility of inadvertent badger mortality, project related vehicles shall observe a maximum 20 miles per hour speed limit on private roads. • To prevent accidental entrapment of badgers or other animals during construction, all excavated holes or trenches greater than 2 feet deep shall be covered at the end of each work day by suitable materials, or escape routes constructed of earthen materials or wooden planks shall be provided. Before filling, such holes shall be thoroughly inspected for trapped animals. • All food-related trash items (such as wrappers, cans, bottles, and food scraps) shall be disposed of in closed containers and removed daily from the project area. • To prevent harassment and mortality of badgers or destruction of their dens, no pets shall be allowed in the project area. Direct impacts to San Joaquin pocket mice would be minimized in the Western powerline alignment under Power Option 2 by limiting project activities within iodine bush scrub and short grasslands habitat to the smallest possible extent. The implementation of Measure 4.6.7b, which provides habitat compensation for temporary and permanent impacts to annual grasslands that are potentially occupied by San Joaquin kit fox, would additionally benefit American badgers and San Joaquin pocket mice. <p>Measure 4.6.15b: CCWD shall minimize impacts on special-status bats by performing preconstruction surveys and creating no-disturbance buffers around active bat roosting sites. Before construction activities (i.e., ground clearing and grading, including trees or shrub removal) within 200 feet of trees that could support specialstatus bats, a qualified bat biologist shall survey for special-status bats. If no evidence of bats (i.e., direct observation, guano, staining, or strong odors) is observed, no further mitigation shall be required. If evidence of bats is observed, CCWD and its contractors shall implement the following measures to avoid potential impacts on breeding populations:</p> <ul style="list-style-type: none"> • A no-disturbance buffer of 250-feet shall be created around active bat roosts during the breeding season (April 15 through August 15). Bat roosts initiated during construction are presumed to be unaffected by the indirect effects of noise and construction disturbances. However, 		

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>the direct take of individuals will be prohibited.</p> <ul style="list-style-type: none"> • Removal of trees showing evidence of active bat activity shall occur during the period least likely to affect bats, as determined by a qualified bat biologist (generally between February 15 and October 15 for winter hibernacula, and between August 15 and April 15 for maternity roosts). If the exclusion of bats from potential roost sites is necessary to prevent indirect impacts due to construction noise and human activity adjacent, bat exclusion activities (e.g., installation of netting to block roost entrances) shall also be conducted during these periods. If special status bats are identified in the dam or special allowances must be made to relocate bats, CCWD will coordinate the effort in advance with CDFG. 		
Section 4.7: Land Use			
<p>4.7.3: Construction activities within designated Airport Land Use Compatibility Zones near the Byron Airport could cause potential temporary height impacts by conflicting with FAR Part 77 surfaces during construction.</p>	<p>Measure 4.7.3: Pursuant to ALUCP policy 4.3.4, CCWD shall notify the FAA, as required by FAR Part 77, Subpart B, of its proposed project to determine whether the proposed construction equipment and the location of construction activities and staging areas have the potential to intrude into protected airspace associated with Byron Airport. To facilitate FAA coordination, CCWD shall consult with County Airport staff. If necessary, CCWD will ensure that appropriate notes or modifications are made on all applicable design plans and specifications to ensure that construction activities would not conflict with the airport height limitations.</p>	Future Expansion	Less than significant
<p>4.7.4: Construction activities within the AIA for Byron Airport could cause potential temporary flight hazards through the creation of glare or distracting lights; the generation of dust or smoke, which could impair pilot visibility; or could attract an increased number of birds.</p>	<p>Measure 4.7.4a: During project design, CCWD shall consult with Contra Costa County Airport staff regarding the location of illuminated equipment staging, storage, and construction areas, and the need to provide a potential Notice to Airmen (NOTAM) during construction activities. CCWD shall instruct its engineer to make appropriate notations on construction drawings and specifications to indicate that illuminated work areas shall incorporate the use of downward facing lights with amber lumens to prevent confusion to pilots.</p> <p>Measure 4.7.4b: During project design, CCWD shall instruct its engineer to prohibit the use of temporary sediment ponds that could create open water to attract potentially hazardous wildlife. To ensure that an appropriate seed mixture is used during construction, CCWD shall instruct its engineer to make appropriate notations on construction drawings and specifications to indicate that all seed mixtures used for revegetation or for sediment and erosion control purposes should not contain rice, barely, millet, rye, or other potential food sources for avian wildlife.</p> <p>Implementation of Air Quality Mitigation Measure 4.10.1: During construction, CCWD will require the construction contractor to implement the Bay Area Air Quality Management District's (BAAQMD's) basic and enhanced dust control procedures (see Section 4.10, Air Quality)</p>	Current Expansion Future Expansion	Less than significant Less than significant
Section 4.8: Agricultural Resources			

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
<p>4.8.1: Project construction would temporarily impact the agricultural use of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.</p>	<p>Measure 4.8.1: To minimize temporary construction impacts to agricultural activities on Important Farmland, CCWD shall ensure that the following measures are incorporated into the project construction plans and specifications:</p> <ul style="list-style-type: none"> • Ensure that the existing drainage systems at proposed project sites needed for farming activities function as necessary to avoid disrupting agriculture • Design dewatering operations to maximize dewatering in the immediate area of trench and to minimize drawdown area outside of trench during dewatering of construction trenches and other excavated areas; monitor soil moisture in adjacent crop fields to ensure adequate crop moisture and assist with irrigation scheduling • Locate construction access and staging areas in areas that are fallow and use existing roads to access construction areas to the extent possible • Coordinate construction scheduling as practicable to minimize disruption of agricultural operations by scheduling excavation before or after the growing season • Minimize construction dust on crops by implementing Air Quality Measures 4.10.1 The above mitigation measures would reduce temporary construction impacts to less-than-significant levels. 	<p>Future Expansion</p>	<p>Less than significant</p>
<p>4.8.2: The project would permanently convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use.</p>	<p>Measure 4.8.2a: To support the continued productive use of Important Farmlands in the project area, CCWD shall ensure that the following measures are taken during project construction activities in Important Farmland:</p> <ul style="list-style-type: none"> • Replace soils over pipelines in a manner that will minimize any negative impacts on crop productivity. The surface and subsurface soil layers will be stockpiled separately and returned to their appropriate locations in the soil profile. • Monitor pre-construction soil densities and return the surface soil (approximately the top 3 feet) to within 5 percent of original density so that over-compaction of the top layers of soil is avoided. • Rip the top soil layers, where necessary, to achieve the appropriate soil density. Ripping may also be used in areas, such as in construction staging locations, where vehicle and equipment traffic have compacted the top soil layers. • Minimize compaction and loss of soil structure by not working or traveling on wet soil. Before construction begins, geotechnical testing will be done to determine the moisture content limit above which work should not occur. Where working or driving on wet soil cannot be avoided, roadways will be capped with spoils that will be removed at 	<p>Future Expansion</p>	<p>Significant and Unavoidable²</p>

² The significant and unavoidable impact for loss of farmland only applies if a new Delta intake is required for the Future Expansion. It has not been determined if the new Delta intake would be required for a Future Expansion involving EBMUD.

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>the end of construction and/or ripped and amended with organic material as needed.</p> <ul style="list-style-type: none"> • Remove all construction-related debris from the soil surface. This will prevent rock, gravel, and construction debris from interfering with agricultural activities. • Perform soil density monitoring during backfill and ripping to minimize excessive compaction and minimize effects on future agricultural land use. • Remove topsoil before excavating in fields. Return topsoil to top of fields to avoid detrimental inversion of soil profiles. • Control compaction to minimize changes to lateral groundwater flow, which could affect both irrigation and internal drainage. <p>Measure 4.8.2b: CCWD will provide the following mitigation for the conversion of Important Farmland: For each acre of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance that is permanently converted to nonagricultural use, 1 acre of agricultural conservation easement will be obtained. An agricultural conservation easement is a voluntary, recorded agreement between a landowner and a holder of the easement that preserves the land for agriculture. The easement places legally enforceable restrictions on the land. The exact terms of the easement are negotiated, but restricted activities will include subdivision of the property, non-farm development, and other uses that are inconsistent with agricultural production. The mitigation lands must be of equal or better quality (according to the latest available FMMP data) and have an adequate water supply. In addition, the mitigation lands must be within the same county. Information presented in Table 4.8-6 indicates that this compensatory mitigation would require acquisition of easements on about 22 acres of Farmland of Statewide Importance, preferably within Contra Costa County.</p>		
<p>4.8.4: The project would involve changes in the environment that, due to their location or nature, could contribute to cumulative impacts from conversion of Important Farmland to nonagricultural uses.</p>	<p>Implementation of Agricultural Resources Mitigation Measures 4.8.1 and 4.8.2 (a and b) would minimize potential impacts under Alternatives 1 and 2; however, those measures would not reduce cumulative impacts to less-than-significant levels. The level of significance after mitigation would be a significant and unavoidable cumulative impact for Alternatives 1 and 2. With Mitigation Measure 4.8.2a, Alternative 3 would not result in a cumulatively considerable contribution to a significant impact on agriculture.</p>	<p>Future Expansion</p>	<p>Significant and Unavoidable</p>
<p>Section 4.9: Transportation</p>			
<p>4.9.1: Project construction activities would intermittently and temporarily increase traffic congestion due to vehicle trips generated by construction workers and construction vehicles on area roadways.</p>	<p>Measure 4.9.1a: Schedule project generated construction truck trips on Vasco Road, Byron Highway, SR 4, and SR 4 Bypass outside the peak morning and evening commute hours such that the frequency of construction truck trips on these roads would be no greater than one every two minutes (i.e., 30 trucks per hour) during these peak commute periods.</p>	<p>Future Expansion</p>	<p>Less than significant</p>
<p>4.9.2: Project construction activities under</p>	<p>Measure 4.9.2a: Maintain alternative property access or trench plates on</p>	<p>Future Expansion</p>	<p>Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
<p>Alternatives 1, 2 and 3 would intermittently and temporarily impede access to local streets or adjacent uses, including access for emergency vehicles and could substantially increase traffic hazards due to construction in or adjacent to roads or possible road wear.</p>	<p>site to restore access for emergency vehicles at all times.</p> <p>Measure 4.9.2b: Provide pre-notification to local police, fire, and emergency service providers of the timing, location, and duration of construction activities that could affect the movement of emergency vehicles on area roadways.</p> <p>Measure 4.9.2c: Install traffic control devices as specified in Caltrans' Manual of Traffic Controls for Construction and Maintenance Work Zones where needed to maintain safe driving conditions. This measure includes the use of signage to alert motorists of construction activities, potential hazards and travel detours as well as the use of flaggers when appropriate.</p> <p>Measure 4.9.2d: Prior to construction, CCWD or its contractors will survey and describe the pre-construction roadway conditions on rural roadways and residential streets (including, but not limited to, Walnut Boulevard and Camino Diablo). Within 30 days after construction is completed, CCWD will survey these same roadways and residential streets in order to identify any damage that has occurred. Roads damaged by construction will be repaired to a structural condition equal to the condition that existed prior to construction activity.</p>		
<p>4.9.4: Construction of project alternatives, when combined with construction of other future projects, could contribute to construction-related short-term cumulative impacts to traffic and transportation (traffic congestion, access, and traffic safety).</p>	<p>Measure 4.9.4: Prior to construction, CCWD will coordinate with the appropriate local government departments in Brentwood, Contra Costa County, Alameda County, and Caltrans, and with utility districts and agencies regarding the timing of construction projects that would occur near project sites. Specific measures to mitigate potential significant impacts will be determined as part of the interagency coordination, and could include measures such as employing flaggers during key construction periods, designating alternate haul routes, and providing more outreach and community noticing.</p>	<p>Future Expansion</p>	<p>Less than significant</p>
<p>Section 4.10: Air Quality</p>			
<p>4.10.1: Construction of project alternatives could generate short-term emissions of criteria air pollutants: ROG, NOx, CO, and PM10 that could contribute to existing nonattainment conditions and further degrade air quality. However, project alternatives would not exceed federal general conformity <i>de minimis</i> standards for emissions.</p>	<p>Measure 4.10.1: During construction, CCWD will require the construction contractor to implement the measures that are specified under BAAQMD's basic and enhanced dust control procedures. These include:</p> <ul style="list-style-type: none"> • Basic Control Measures – CCWD and its contractors will implement the following controls at all construction sites: <ul style="list-style-type: none"> - Water all active construction areas at least twice daily. - Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard. - Pave, apply water three times daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. - Sweep daily (with water sweepers) all paved access roads, parking areas, and staging area at construction sites. 	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<ul style="list-style-type: none"> - Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets. • Enhanced Control Measures – CCWD and its contractors will implement the following measures during project construction for project facility sites of 4 acres or greater: <ul style="list-style-type: none"> - Hydroseed or apply (nontoxic) soil stabilizers to inactive construction areas (previously graded areas inactive for one month or more). - Enclose, cover, water twice daily, or apply (nontoxic) soil stabilizers to exposed stockpiles (such as dirt and sand). - Limit traffic speeds on unpaved roads to 15 miles per hour. - Install sandbags or other erosion control measures to prevent silt runoff to public roadways. - Replant vegetation in disturbed areas as quickly as possible. • CCWD and its contractors will implement the following additional control measure during reservoir expansion construction due to the large area of disturbance: <ul style="list-style-type: none"> - Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site onto public roads. 		
<p>4.10.6: Construction and operation of the project alternatives could result in cumulatively considerable increases of criteria pollutant emissions.</p>	<p>Implement Mitigation Measure 4.10.1.</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>
<p>Section 4.11: Noise</p>			
<p>4.11.1: Construction of facilities under the proposed project and alternatives could generate noise levels that exceed the Contra Costa County or Alameda County noise standards at nearby sensitive receptors if construction activities are carried out during noise-sensitive hours, causing sleep disturbance and/or annoyance.</p>	<p>Measure 4.11.1a: To avoid noise-sensitive hours of the day and night, construction will be limited to the hours between 7 a.m. to 7 p.m. Monday through Friday, and 8 a.m. to 5 p.m. on Saturday and Sunday for the following facilities, construction activities and project areas:</p> <ul style="list-style-type: none"> • Alternatives 1, 2, 3, or 4: Construction of any facilities in those areas that are 3,000 feet or less from sensitive residences. At 3,000 feet, excavation activities would attenuate to 45 dBA and would be less than the quietest existing noise environment measured and depicted in Table 4.11-2 and would not be noticeable. <p>Measure 4.11.1b: To further address the impact of construction for all alternatives, construction contractors will implement the following:</p> <ul style="list-style-type: none"> • Signs will be posted at all construction site entrances to the property when project construction begins to inform all contractors/subcontractors, their employees, agents, material haulers, and all other persons at the applicable construction sites of the basic requirements of Mitigation Measures 4.11.1a, 4.11.1c, and 4.11.1d. • Signs will be posted at the construction sites that include permitted construction days and hours, a day and evening contact number for 	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>the job site, and a contact number in the event of problems.</p> <ul style="list-style-type: none"> • An onsite complaint and enforcement manager will respond to and track complaints and questions related to noise. <p>Measure 4.11.1c: To reduce noise impacts due to construction for all alternatives, construction contractors will be required to implement the following measures:</p> <ul style="list-style-type: none"> • During construction, the contractor will outfit all equipment, fixed or mobile, with properly operating and maintained exhaust and intake mufflers, consistent with manufacturers' standards. • Impact tools (e.g., jackhammers, pavement breakers, and rock drills) used for construction will be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust will be used. External jackets on the tools themselves will be used where feasible. Quieter procedures, such as use of drills rather than impact tools, will be used whenever construction occurs within 3,000 feet of sensitive residences. • Stationary noise sources will be located as far from adjacent sensitive receptors as possible. <p>Measure 4.11.1d: For all alternatives, no amplified sources (e.g., stereo "boom boxes") will be used in the vicinity of residences during project construction.</p> <p>Measure 4.11.1e: To further reduce less than significant pile driving noise impacts at the Delta Pump Station facilities under all alternatives, CCWD shall require construction contractors to implement "quiet" pile-driving technology (such as sonic or vibratory pile-driver use; pre-drilling of piles; jetted pile-driving) where feasible, with consideration of geotechnical and structural requirements and conditions.</p>		
Section 4.12: Utilities and Public Service Systems			
<p>4.12.1: Construction or operation of project alternatives could temporarily disrupt utilities and public service systems such that a public health hazard could be created or an extended service disruption could result.</p>	<p>Implementation of Transportation and Circulation Mitigation Measure 4.9.2: This mitigation involves requirements to reduce the potential for impeding emergency access.</p> <p>Implementation of Hazards Materials and Public Safety Mitigation Measure 4.13.3: This mitigation involves required activities to reduce the potential risk of wildfires.</p> <p>Measure 4.12.1a: Prior to construction of the project facilities and once pipeline alignments have been finalized, a detailed survey identifying utilities along the proposed alignments will be conducted. The survey results and the following measures will be incorporated into final design</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>plans and specifications to avoid or minimize potential conflicts with utilities:</p> <ul style="list-style-type: none"> a. Utility excavation and encroachment permits will be acquired from the appropriate agencies, including the Public Works Departments of Contra Costa and Alameda Counties. CCWD will incorporate permit conditions in contract specifications that are designed to ensure no disruptions in service occur during construction. Contractors will be required to comply with permit conditions contained in contract specifications. b. CCWD shall ensure that Underground Service Alert is notified at least 14 days prior to initiation of construction activities of the underground portions of each transmission lines and utility structures. Underground Service Alert verifies the location of all existing underground utilities and alerts the other utilities to mark their facilities in the area of anticipated construction activities. c. A detailed engineering and construction plan will be prepared as part of the design plans and specifications. This plan will include procedures for the excavation, support, and fill of areas around utility cables and pipes to ensure that utility cables are not damaged. All affected utility service providers will be notified of the construction plans and schedule, and arrangements will be made with these entities regarding the protection, relocation, or temporary disconnection of services. d. In shared utility easement areas where a project pipeline might parallel wastewater mains, the engineering and construction plans will include trench-wall support measures to guard against potential trench wall failure and the resulting loss of structural support for the wastewater main. e. The California Department of Health Services standards will be observed; these standards require: (1) a 10-foot horizontal separation between parallel sewer and water mains (gravity or force mains); (2) a 1-foot vertical separation between perpendicular water and sewer line crossings; and (3) encasing sewer mains in protective sleeves where a new water line crosses under or over an existing wastewater main. If the separation requirements cannot be maintained, a variance will be obtained from the Department of Health Services through the provision of sewer encasement or other means the department deems suitable. f. Final construction plans and specifications will be coordinated with affected utilities including PG&E, Western, and the California Department of Health Services Sanitary Engineering Branch. g. Emergency response plans and protocols, as required under construction permit conditions, shall be incorporated into project construction specifications. 		

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>Measure 4.12.1b: CCWD shall phase construction to minimize the potential for water supply emergencies and complete formal arrangements with EBMUD for water supply backup prior to draining the Los Vaqueros Reservoir and initiating project construction.</p>		
<p>4.12.3: Construction of the project alternatives could increase solid waste generation such that the capacity of local landfills would be exceeded or the project would not comply with state regulations related to solid waste.</p>	<p>Measure 4.12.3: CCWD will incorporate into the contract plans and specifications the requirement that the contractor implement solid waste reduction and debris recovery practices as developed by CCWD. The solid waste reduction / debris recovery specifications will include the following items.</p> <ol style="list-style-type: none"> a. describe the planned management methods for all types of construction and demolition debris (e.g., reuse, recycling, or disposal), and indicate the types of debris expected to be generated by the project (e.g., wood, drywall, concrete, cardboard, and metal) b. name all service providers and/or facilities to be used for debris management (or indicate that the debris, such as dirt, will be reused onsite) c. demonstrate that at least 50 percent (by weight) of jobsite debris is diverted from disposal in a landfill by providing receipts and/or gate-tags from all facilities and service providers used to recycle, reuse, or dispose of jobsite debris. <p>Project waste generation would be avoided or minimized in a number of ways, which would be outlined in the project's solid waste reduction / debris recovery plan, and incorporated into project plans and specifications for implementation by contractors selected to complete project construction. To reduce solid waste generation, a series of practices would be developed, as follows:</p> <p><i>Re-use of excavation backfill.</i> Fill materials excavated during project grading and drilling would be reused as fill materials during project construction, while soils excavated during pipeline construction would be used to backfill trenches after pipeline installation;</p> <p><i>Recycling of materials.</i> Some construction materials, including some wood scraps, metals, and packaging materials could be recycled for later resale e.g. – wood scraps sold as landscape mulch.</p> <p><i>Re-Use of excess fill.</i> Clean fill could be accepted for use at other construction sites, or stored at existing sand and gravel facilities until (re)used as clean fill.</p> <p><i>Roadway sub-base or surface material.</i> Larger waste rock from excavation of tunnels would be placed along project access roads as a roadway sub-base or surface.</p> <p><i>Divert waste to non-landfill locations.</i> Additional amounts of the larger waste rock could be disposed of at a 22-acre area near the terminus of Byron Hot Springs Road.</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>
<p>4.12.4: Construction of the project alternatives could make a cumulatively considerable contribution to cumulative effects on public</p>	<p>Implementation of Mitigation Measures 4.12-1 and 4.12-3, including implementation of a solid waste reduction / debris recovery plan as required under AB 939, will reduce potential cumulative impacts to less</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
services and utilities, or local landfill capacity.	than significant levels.		
Section 4.13: Hazardous Materials / Public Health			
4.13.2: Project construction and operation could, through routine transport, use or disposal, accidentally release hazardous materials, thereby exposing construction workers, project personnel, and the public to hazardous materials, or accidentally releasing hazardous materials into the soil, groundwater, and/or a nearby surface water body.	<p>Implementation of Hydrology Mitigation Measures 4.5.1a and 4.5.1b: These measures involve protection of water quality.</p> <p>Measure 4.13.2: CCWD will incorporate into the contract specifications that require the contractor to enforce strict onsite best management practices (BMPs) to keep hazardous materials from accidental release. These practices will include, without limitation, designating a central storage area to keep hazardous materials away from any waterways and storm drain inlets; refueling equipment in designated areas; containing contaminants away from any waterways or storm drain inlets; preparing a spill prevention, control, and countermeasure plan; and regularly inspecting construction vehicles for leaks.</p>	Current Expansion Future Expansion	Less than significant Less than significant
4.13.3: Improper handling or use of flammable or combustible materials such as internal combustion equipment could result in wildland fires, exposing people or structures to a significant risk of loss, injury, or death.	<p>Measure 4.13.3: CCWD will incorporate into contract specifications the requirement that the contractor enforce strict onsite BMPs to reduce the potential for accidental fires.</p> <ol style="list-style-type: none"> 1) All equipment used during construction must have an approved spark arrestor. 2) The contractor/staff responsible for construction will submit a Fire Safety Plan for review by the Contra Costa County Fire Prevention Bureau. This plan will include precautions to carry out during high-fire danger, a list of fire-suppression equipment and tools to have on hand, a description of available communications, specifications for the supply of water to have on hand, and descriptions of other actions that will reduce the risk of ignition and facilitate immediate control of an incipient fire. 3) Ensuring easily accessible fire-suppression equipment is available at all work locations. 	Current Expansion Future Expansion	Less than significant Less than significant
Section 4.14: Visual/Aesthetic Resources			
4.14.2: The project alternatives would not substantially degrade the existing visual character or quality of the site and its surroundings, except Alternative 4 due to the borrow area in Kellogg Valley.	<p>Measure 4.14.2a: CCWD shall develop and implement a site restoration plan specifically for the 160 TAF borrow area that shall provide for finished topography that, while not restored to prior condition, shall blend in with the surrounding landscape, minimizing the visual contrast. The plan shall include a revegetation plan that includes a native seed mix typical of the surrounding area. While these site restoration steps are similar to those that will be required at all project sites, this specific project area requires its own restoration plan because of the extent of ground disturbance that will occur here.</p>	Current Expansion Future Expansion	Less than significant Less than significant
4.14.3: The project alternatives would not create a new source of substantial light but Alternatives 1, 2, and 3 could create a new source of substantial glare that could adversely affect views in the area.	<p>Measure 4.14.3: Non-specular conductors shall be installed to reduce the potential glare effects and the level of visual contrast between the transmission line and its landscape setting.</p>	Current Expansion Future Expansion	Less than significant Less than significant
Section 4.15: Recreation			

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
<p>4.15.1: Construction of the project alternatives would result in a short-term reduction of recreational opportunities in the project area due to construction activities outside the watershed and closure of the watershed to the public during the construction period, but would enhance recreational opportunities in the long-term.</p>	<p>Measure 4.15.1a: Before any recreational facilities are closed in the watershed, CCWD shall prepare and implement a public outreach program and promote the program via the web, billing inserts, and other methods to inform current and potential recreational users of the temporary closure of the Los Vaqueros Reservoir day-use facilities and inform customers of other recreational opportunities in the area.</p> <p>Measure 4.15.1b: If EBRPD's proposed Delta Trail Extension is developed and open to the public before or during construction of the new Delta Intake and Pump Station, CCWD shall provide EBRPD with an anticipated closure schedule; prepare and implement a public outreach program and promote the program via the web, billing inserts, and other methods to inform current and potential recreational trail users of the temporary closure of the Delta Trail Extension and inform customers of other recreational trail opportunities in the area; and place signage to the north and south of the new Delta Intake and Pump Station site along the trail to inform recreational users of the trail closure, alternative trail options, and anticipated timing for the reopening.</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>
<p>Section 4.16: Cultural and Paleontological Resources</p>			
<p>4.16.1: Construction and management of project components would cause a substantial adverse change in the significance of a historical and/or unique archaeological resource as defined in Section 15064.5 or historic property or historic district, as defined in Section 106 of the NHPA (36 CFR 800), or in a previously undiscovered cultural resource.</p>	<p>Under both federal and state law, the first mitigation measure to be considered for a significant impact to a cultural resource is relocation of project elements so that the impact is avoided. For all project alternatives, some project elements could not be relocated to avoid impacts on cultural resources.</p> <p>Measure 4.16.1a: Los Vaqueros Reservoir Expansion; Dam Modification; and Other Sites Where Cultural Resources Can Be Avoided. The preferred mitigation measure under CEQA is site avoidance. If feasible, avoid impacts to known cultural resources through project design modification. Using GIS mapping techniques, overlay project design plans on boundary maps of known cultural resources and redesign project components to avoid significant cultural resources by ensuring they fall into areas designated as open space or otherwise undeveloped areas. This is the least costly mitigation measure and is favored by archaeologists, local historical societies, and Native American groups.</p> <p>Measure 4.16.1b: Los Vaqueros Reservoir Expansion; Dam Modification; and Other Sites Where Cultural Resources Cannot Be Avoided. If feasible, protect cultural resources in place. If resources cannot be protected in place, implement data recovery consistent with 14 CCR § 15126.4(b)(3)(c) and with the guidelines set forth in the Secretary of Interior's standards and guidelines (Standards I through IV). CCR § 15126.4(b)(3)(c) states that a data recovery plan shall be prepared and adopted prior to any excavation being undertaken. Because the historical</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>significance of most archaeological sites lies in their potential to contribute to scientific research, the data recovery plan shall make provision for adequately recovering the scientifically consequential data from and about the historical resource. Similarly geared toward scientific inquiry, the Secretary of Interior's standards include following an explicit statement of objectives and employing methods that respond to needs identified in the planning process; using methods and techniques of archaeological documentation (data recovery) selected to obtain the information required by the statement of objectives; assessing the results of the archaeological documentation against the statement of objectives and integrating them into the planning process; and reporting and making public the results of the archaeological documentation. To this end, data recovery findings shall be documented in a data recovery report, which shall follow guidelines set forth by SHPO for such reports.</p> <p>Measure 4.16.1c: Los Vaqueros Reservoir Expansion; Dam Modification; Marina Access Road; Inlet/Outlet Pipelines; Western Hiking Trail/Access Road; Delta-Transfer Pipeline; Transfer-LV Pipeline; and Transfer-Bethany Pipeline. Prior to ground disturbing activities, conduct subsurface investigations (i.e., archeological testing) for undiscovered cultural resources in the portions of the APEs for the project elements that are identified as having moderate to high potential for undiscovered subsurface cultural resources. Conduct data recovery as described in Mitigation Measure 4.16.1b.</p> <p>Measure 4.16.1d: All project elements near known cultural resources or in areas with high potential for undiscovered cultural resources. During construction, restrict ground-disturbing activities to the minimum area feasible and fence off known cultural resources and high-potential areas that are outside but near the construction area. To prevent construction-related adverse impacts on historic properties within the APE, CCWD shall instruct its contractors to place fencing or other barriers around sites that could be affected. CCWD shall prepare and implement a cultural resource construction monitoring plan to ensure that monitoring and/or physical barriers adequately protect sites from incidental construction activities. For example, the petroglyph boulder (CA-CCO-597) that is within the APE for the Transfer- Bethany Pipeline shall be fenced during construction, thereby creating a 20- foot-wide buffer to ensure that heavy equipment traffic and staging- and storage-related activities do not cause inadvertent damage to the property.</p> <p>Measure 4.16.1e: All project elements. All construction personnel who work on the project shall undergo a training session to inform them of the presence and nature of cultural resources and human remains within the project area; of the laws protecting these resources and associated</p>		

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>penalties; and of the procedures to follow if they discover cultural resources during project-related work.</p> <p>Measure 4.16.1f: All project elements. If previously undiscovered cultural resources (e.g., unusual amounts of shell, animal bone, bottle glass, ceramics, structure/building remains, etc.) are discovered during ground disturbing activities, CCWD shall authorize the construction contractor to stop work in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find according to NRHP and CEQA (including CRHR) criteria, and, if necessary, develop appropriate treatment measures in consultation with CCWD. Potential treatment measures for significant and potentially significant resources may include, but would not be limited to, no action (i.e., resources determined not to be significant), avoidance of the resource through changes in construction methods or project design, and implementation of a program of testing and data recovery, in accordance with PRC § 21083.2. Implementation of this mitigation measure would ensure proper identification and treatment of any significant cultural resources uncovered as a result of project-related ground disturbance and would reduce the potential impact resulting from inadvertent damage or destruction of unknown cultural resources during construction to a less-than-significant level.</p> <p>Measure 4.16.1g: Impacts on some sites from increased access and vandalism can be minimized by updating the existing Cultural Resources Management Plan. The plan was developed for the original Los Vaqueros Project and it should be updated for the proposed project. To ensure the longterm protection of these sites, the existing plan provides guidelines to prevent impacts on historic properties, such as restrictions for use in areas of sensitivity, and a long-term monitoring program to ensure that cultural resources are protected in the future. The plan states that should vandalism be detected during the long-term monitoring program, a plan should be in place to organize the documentation and investigation of the endangered resource. Such an HPTP would entail elements including complete photographic and mapping documentation of the resource, as well as a phased archaeological testing and data recovery program. Such an HPTP shall be developed for each historic property that is determined to be visible from trails, exposure due to erosion, and vulnerable to vandalism for the proposed project.</p> <p>Measure 4.16.1h: Results from the recordation, testing, and data recovery of the prehistoric and historic-era resources within the District shall be synthesized into a comprehensive scholarly study of the prehistory and history of the District. Particular attention shall be paid to the change in use through time of the lower elevations of the watershed and resources</p>		

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	therein within the context of the greater watershed. Additionally, the same information shall be synthesized into a document for public education that can be easily accessed and understood by members of the public including children of grade-school age.		
<p>4.16.2: Ground-disturbing activities could encounter and destroy paleontological resources in certain geologic formations underlying the project area.</p>	<p>Measure 4.16.2a: A trained paleontologist shall monitor the earth disturbing activities in areas of high and very high sensitivity. If a paleontological resource is encountered during excavation monitoring, the onsite monitor shall halt or divert excavations within 50 feet of the find until the discovery is examined by the monitor in accordance with Society of Vertebrate Paleontology standards. If the resource is determined not to be significant, construction shall resume. If the resource is determined to be significant, construction shall remain halted and the paleontologist shall prepare and implement a salvage plan in accordance with Society of Vertebrate Paleontology standards to recover, remove and/or mold exposed paleontological resources and conduct sampling where necessary to recover microfossil remains (Society of Vertebrate Paleontology, 1995). The paleontologist shall notify CCWD and Reclamation if the find is determined to be significant.</p> <p>Measure 4.16.2b: Prior to the start of construction on project elements that would require earth disturbing activities in areas of low or moderate paleontological sensitivities, construction personnel involved with earthmoving activities shall be trained regarding the appearance of fossils and proper notification procedures. This worker training shall be prepared and presented by a qualified paleontologist. If workers discover paleontological resources during ground-disturbing activities, work shall stop within 50 feet of the find until a qualified paleontologist can assess the significance of the find and determine the appropriate next steps, depending on the significance of the find as described in Measure 4.16.2a.</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>
<p>4.16.3: Construction and management of project components could disturb human remains, including those interred outside of formal cemeteries.</p>	<p>Measure 4.16.3: Stop Potentially Damaging Work if Human Remains Are Uncovered During Construction, as a Result of Erosion, or of Vandalism, Assess the Significance of the Find, and Pursue Appropriate Management. California law recognizes the need to protect interred human remains, particularly Native American burials and associated items of patrimony, from vandalism and inadvertent destruction. The procedures for the treatment of discovered human remains are contained in California Health and Safety Code §7050.5 and §7052 and California PRC §5097. In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, including construction, erosion, or vandalism, all such activities within a 100-foot radius of the find shall be halted immediately and CCWD's designated representative shall be notified. CCWD shall immediately notify the county coroner and a qualified professional archaeologist. The coroner is required to examine all discoveries of</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>

CCWD Los Vaqueros Reservoir Expansion EIS/EIR Summary of Impacts and Mitigation Measures

Environmental Impact	Mitigation Measure	Required for	Significance After Mitigation
	<p>human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If death appears to have resulted from homicide, suicide, poisoning, accident, violence, or certain contagious diseases and hazards, the coroner is required to investigate as specified in Government Code Section 27491. If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). CCWD's responsibilities for acting upon notification of a discovery of Native American human remains are identified in detail in the California PRC Section 5097.98. CCWD or its appointed representative and the professional archaeologist shall contact the Most Likely Descendent (MLD), as determined by the NAHC, regarding the remains. The MLD, in cooperation with the property owner and the lead agencies, shall determine the ultimate disposition of the remains in accord with the provisions of Section 5097.98. If NAHC cannot identify any MLDs, if the MLD fails to make a recommendation, or CCWD disagrees with the MLDs recommendation and mediation fails to resolve the issue, then CCWD must reinter the human remains with appropriate dignity on a part of the property not subject to further subsurface disturbance, as is specified in Section 5097.98(b) and 14 Cal. Code Regs § 1064.5(e)(2).</p>		
<p>4.16.4: Construction and management of project components would contribute to adverse cumulative impacts to cultural and/or paleontological resources.</p>	<p>Measures 4.16.2a and 4.16.2b, as previously stated.</p>	<p>Current Expansion Future Expansion</p>	<p>Less than significant Less than significant</p>
<p>Section 4.17: Socioeconomic Effects</p>			
<p>4.17.5: Construction of the project alternatives, when combined with construction of other future projects, could have a potential cumulative effect on Contra Costa County's economy as a result of temporary loss of agricultural land uses.</p>	<p>Implementation of Agricultural Resources Mitigation Measures 4.8.1 and 4.8.2 (a and b): This would minimize potential impacts under Alternatives 1 and 2; however, those measures would not reduce cumulative impacts to less than significant levels. The level of significance after mitigation would be a significant and avoidable cumulative impact.</p>	<p>Future Expansion</p>	<p>Significant and Unavoidable</p>